



**DETERMINANTS OF FOREIGN DIRECT INVESTMENT  
INTO SUB-SAHARAN AFRICA AND ITS IMPACT ON  
ECONOMIC GROWTH**

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**A Thesis Submitted in Partial Fulfilment of the Requirements of  
Bournemouth University for the Degree of Doctor of Philosophy**

**December, 2014**

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## **ABSTRACT**

The aim of this research has 3 main objectives. The first objective is to examine the determinants of foreign direct investment (FDI) into Sub-Saharan Africa (SSA). This further to investigate how SSA countries compare in their FDI determinants with other countries from the Middle East and North Africa (MENA). These are the two least recipient regions of global FDI. The second objective is to examine the determinants of firm performance in SSA manufacturing firms with respect to market structure and foreign ownership. The third objective is to examine the impact of FDI on economic growth in SSA.

To address the first objective, panel data techniques (pooled OLS and fixed effects) were employed on different samples of SSA and MENA countries for the time period 1996-2010. The findings revealed that return on capital, market size, infrastructure development, human capital, control of corruption, trade openness and strategic assets are important determinants of FDI in SSA. Surprisingly, natural resource endowments are not significant determinants of FDI. Also, the findings revealed that all things being equal, SSA countries will receive less FDI inflows compared to MENA countries.

To achieve the second objective, OLS regression was employed on a sample of SSA manufacturing firms (garments, fabricated metals, and woods and furniture) for the period 2007. The findings showed that quality of human capital, foreign ownership, and firm size positively and significantly influence firm performance. On the other hand, competition, capital intensity, poor electricity delivery, and obstacles in accessing finance impact negatively on firm performance. Corruption and political instability (except for garments firms) have insignificant relationships with firm performance.

Lastly, the third objective used panel data estimation techniques (pooled OLS, fixed effects and GMM) on a sample of SSA countries for the period 1996-2010. The findings showed that agricultural output, governance, merchandise exports, total official flows, and fixed capital formation are positive and significantly related to economic growth. External debt stock was negative and significantly related to economic growth. Surprisingly, the stock of FDI is insignificantly related to SSA economic growth. Further analyses indicate that in order to ensure that FDI impacts significantly on economic growth, minimum threshold requirements are needed in terms of education.

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## ACKNOWLEDGEMENT

This journey so far has been a wonderful experience. Certainly not smooth all the way but one also filled with fond memories and steadfastness. The most important thing to remember in this journey is the faithfulness of God upon my life irrespective of my shortcomings. At certain times in this journey this hymn by Norman Macleod (1857) really kept me going.

*Courage, brother, do not stumble,  
Though thy path be dark as night;  
There's a star to guide the humble,  
Trust in God and do the right.  
Let the road be rough and dreary,  
And its end far out of sight,  
Foot it bravely; strong or weary,  
Trust in God, trust in God,  
Trust in God and do the right.*

Norman Macleod, 1857

My deepest appreciation also goes to my supervisors Professor Allan Webster and Dr Hossein Hassani. I am sure words alone would not be enough to convey the level of guidance, encouragement and tutelage I received from them. In particular, Professor Allan Webster, you were such a pillar of support and may God richly bless you. My appreciation also goes to Professor Philip Hardwick and Professor Jenny Piesse for their advice during



the course of this journey. Dr Fabian Homberg, Dr Davide Secchi, Dr George Filis and Dr Jens are others I would like my appreciation to go to for their support and feedbacks.

I would also like to express my utmost gratitude to my family for their unwavering support towards me. To my late Papa – Engr. Joshua Okafor, (JP), I promise to continually abide by the good ways of life you taught me. To my Sweet Mama – Mrs Catherine Okafor, your care and love is second to none. To my late elder Sister – Mrs Esther Madubugini, I will forever miss you. Continue to rest in the bosom of our Lord, Jesus Christ. I shall forever remember the support you gave me in life. To my siblings – Mr Edochie Okafor, Engr. Emmanuel Okafor, Mrs Victoria Nwosu and Engr. Victor Okafor, you all are simply the best. To my cousin – Mr Sunday Okafor, Sister In-law – Mrs Stephanie Okafor, Nephews and Nieces, and other extended family members I sincerely appreciate all of your support.

I am also grateful to my colleagues and friends – Camilo Calderon, Denis Neiwert, Lyton Chithambo, Ruwan Abeysekera, Evi Yanti, Ismael Tingbani, Samreen Ashraf, Jan Coremans, Emmanuel Silva, Salah Abumangosha, Nicola Coppola, Hayleigh Bosher, Jesus Gonzalez, Anthony Briggs, Sunday Ukwungwu, Malcolm Esekhile, Chidi Osuorji, Jude Okeke, Ugonna Osuagwu, Arinze Egenti, Ellie Hopkins and Jenny Day for their support, ideas and counselling these past few years. To Reverend Michael and his wife Sally, I also say a big thank you for your advice and affection towards me. Finally, my sincere thanks go to the Choir members of St. Peters Anglican Church, Bournemouth. Having to sing every week with you guys helped relieve the stress associated with the PhD programme.

## **DECLARATION**

I declare that this thesis contains no material that has been accepted for the award of any other degree or diploma in any institution or university. The thesis is based on my original work except for quotations and citations which have been acknowledged accordingly. I also declare that this thesis has not been previously or simultaneously submitted, either partially or wholly, for any other qualification at any university or institution.

Godwin Chika Okafor

December, 2014

## **DEDICATION**

I dedicate this thesis to my Sweet Mama – Mrs Catherine Okafor and to the loving memories of my late Papa – Engr. Joshua Okafor (JP) and Sister – Mrs Esther Madubugini

## **LIST OF ACRONYMS AND ABBREVIATIONS**

FDI	-	Foreign Direct Investment
GDP	-	Gross Domestic Product
GMM	-	Generalised Method of Moments
IDP	-	Investment Development Path
MENA	-	Middle East and North Africa
MNEs	-	Multinational Enterprises
NEPAD	-	The New Partnership for Africa's Development
ODA	-	Official Development Assistance
OECD	-	The Organisation for Economic Co-operation and Development
SCP	-	Structure Conduct Performance
SSA	-	Sub-Saharan Africa
TI	-	Transparency International
UNCTAD	-	The United Nations Conference on Trade and Development
UNDP	-	The United Nations Development Programme
WDI	-	World Development Indicators
WGI	-	World Governance Indicators

# **CHAPTER ONE**

## **GENERAL OVERVIEW OF THE RESEARCH**

### **1.1 INTRODUCTION**

The huge interest in the determinants of foreign direct investment (FDI) has been driven by the fact that FDI has become an important factor in the globalization process and in recent years has outpaced trade (Almsafir et al, 2011). Thus, many theories have been developed as a result of these rising interests in foreign direct investment (Moosa, 2002; Freckleton et al., 2012; Konig, 2009). However, in the early research on FDI, there was a limited theoretical framework and theories were developed independently based on a trade theory perspective (Faeth, 2009). These theories aimed to explain why multinationals undertake FDI, the preference of business activities in one country rather than another and the reasons behind the particular mode of entry (Moosa, 2002). The earliest explanation of FDI inflows was from a neoclassical trade theory perspective. The Heckscher-Ohlin model assumed that since commodities vary in relative factor intensities and countries vary in relative factor abundance, capital will move to those countries where the return to capital is higher and the return to labour is lower (Jones, 1957; Hodd, 1967; Calvet, 1981; Faeth, 2009). Aliber (1970) extended the discussion of why capital moves across borders to include differences in the premium associated with exchange rate risk. Multinational firms in countries with stronger currencies have an advantage over local firms in countries with weaker currencies since they can borrow capital with a lower exchange rate risk premium (Harvey, 1990).

The neoclassical approach was criticised because of its inability to clarify the nature of FDI flows (Faeth, 2009) and was replaced with the concept of oligopoly by Kindleberger (1969) and Hymer (1976) to provide a better explanation of why firms move across borders. In this view, firms will only operate internationally when they possess certain advantages over local firms and where the market to explore these advantages is imperfect (Denisia, 2010). Buckley and Casson (1976) formulated a theory of multinational enterprise within a broad-based intellectual framework defined as internationalisation. This theory suggests that firms internalise markets by bringing the activities linked by the market under common ownership and control and move abroad if the expected benefits exceed the expected costs (Calvet, 1981; Buckley and Casson, 2009). Dunning (1979) combined these two concepts to create the eclectic paradigm, which is a combination of the traditional trade economics and internalisation theory, which assumes that the likelihood of a firm investing abroad is based on three main factors: the degree to which a firm owns an asset that its competitors do not; whether the firm can benefit from not selling or leasing these assets to other firms; and the level of rents that can be earned by exploiting these assets (Dunning, 1998; Sun et al, 2002; Dunning, 1980). It is the locational aspects of the eclectic paradigm that separates this theory of FDI from the earlier market structure approaches based on oligopoly and monopoly (Faeth, 2009).

In addition, national policies have had an impact on the determinants of FDI and these have tended to concentrate on attracting investment from abroad rather than emphasise differences in market structure. Hence, FDI can be regarded as a game between the multinational firm and the host government, complicated by the competition between host countries for inward FDI and various inducements and incentives are frequently offered with the intention of influencing the decision of the firm to invest in a particular location (Faeth, 2009). Exchange rates, tariffs and other trade barriers, taxes and the ease with which

capital can be repatriated are some of the ways through which host governments influence FDI activity (Calvet, 1981; Lim, 2001). In terms of negative influences, host governments that neglect to ensure a stable environment can deter investment as political risk is a disincentive for firms wishing to undertake FDI (Khrawish and Siam, 2010). In summary, several factors impact the FDI decision (Kandiero and Chitiga, 2006) and account for the significant variations in the volume of FDI inflows to different countries and regions (Lydon and Williams, 2005).

Irrespective of the surge in FDI, Sub-Saharan African (SSA) countries are yet to extensively attract FDI relative to this global rise in total FDI (Asiedu, 2002) and as data suggest, the countries only account for 2% of all global FDI inflows (World Bank, 2012). The poor record of FDI inflows into SSA relative to global FDI flows have been attributed to a number of factors. Firstly, until very recently, countries in SSA regarded foreign capital with suspicion, often with good cause. Their fears were based largely on the likelihood of a loss of political sovereignty, an adverse impact on domestic firms due to increased competition and if foreign entrants mainly focus on the natural resource sector, rapid economic degradation (Dupasquier and Osakwe, 2006). Therefore, many policies were introduced to deter foreign capital. The socialist development strategies adopted by many post-independence countries nationalised foreign companies and created state-owned industrial sectors (Pigato, 2000). At the same time, SSA gained a reputation as an unattractive location for firms intending to compete in the marketplace due to political and economic risk, low quality of labour, the lack of infrastructure, highly inefficient and costly financial systems and the distance from export markets (Ezeoha and Cattaneo, 2012; Pigato, 2000; Ajayi, 2006). Some of these factors that have been attributed to the low levels of FDI in SSA countries can also influence the performance of firms.

Similar to the huge interest in FDI, the study of firm performance has formed an interesting aspect in the fields of strategic management and industrial organisation economics with the latter field providing the theoretical basis for the determinant of firm performance (Soehadi, 2001; Hawawini et al, 2003). The interest in firm performance has spurred some questions regarding the activities of firms. These questions cut across all aspects of the firm (Mehra, 1996). That is, why are some firms more profitable than others? Why do firms differ in how they behave and choose their strategies? How does the environment in which firms operate affect or enhance their performance? How are firms managed? (Porter, 1991). Another aspect in the literature of the firms' success is identifying those factors and market environments which enhance or impede the performance of firms (Acs and Audretsch, 1987). One of the arguments on firm performance lends support for firms being more productive due to innovative and capital intensive activities and the existence of imperfect competition (Schumpeter, 1976; Acs and Audretsch, 1987). Another line of argument supports the view that the performance of firms is explained by lower costs realised through better management and/or production processes. These two lines of arguments are known as the structure-conduct-performance hypothesis (SCP) and the efficient-structure (EFS) hypothesis (Goldberg and Rai, 1996). On the other hand, the environmental conditions and uncertainty in which firms operate can also determine their level of performance (Soehadi, 2001).

FDI can assume an important role in the provision of capital for investment, high quality managerial skills and technology transfer while creating employment, increased competition, and export development. All of these enhance opportunities for economic growth and firm productivity, particularly in developing countries (Asiedu, 2002; Assuncao et al, 2011; Akinlo, 2004; Mohamed and Sidiropoulos, 2010; Adams, 2009). Also, FDI can bridge the shortfall caused by low savings ratios and bring valuable foreign exchange into



the economy (Ajayi, 2006; Mohamed and Sidiropoulos, 2010). This is of great importance particularly for SSA since organisations such as the OECD and NEPAD have stressed the importance of FDI to economic growth and in filling these resource gaps (Okojie and Shimeles, 2006). In addition to FDI, an understanding of other factors that influence economic growth is very much essential.

Research into economic growth has developed extensively since the days of classical economists like Adam Smith (1776), Malthus (1798), and Ricardo (1817). However, it is argued that the classical article of Ramsey (1928) was the starting point for modern growth theory which was extended by Solow (1956) and Swan (1956). The 1960s and 1970s, saw interest shift from economic growth to areas such as inflation, unemployment and business cycles. However, in the 1980s, interest in economic growth resurfaced as a result of the concerns about the slowdown in growth and development (Zarra-Nezhad and Hosainpour, 2011; Liu and Premus, 2000). Irrespective of these theories of economic growth, there has been no singular acceptable theory because of the complexity of the study and the different views with which many approach the issue. (Petrakos et al, 2007). Some of the theories of economic growth fall under two main headings and thus are distinguished as: 1). The Neoclassical Theories, based on Solow's growth model which emphasised how important investment is to economic growth; and 2). Endogenous Growth Theory developed by Romer and Lucas that highlighted the importance of human capital and innovation to economic growth. However, the Myrdal's Cumulative Causation Theory and the New Economic Geography School have also provided vital contributions on economic growth since the role of non-economic factors have significant impact on economic growth.

## 1.2 MOTIVATION OF STUDY

This research was motivated by a number of reasons. First, SSA region is considered one of the poorest regions, and the issue of investment and economic growth pose enormous challenges to countries in SSA. The region's economic and investment history represent a typical definition of tragedy, and potentials unfulfilled (Easterly and Levine, 1997). One argument for sustaining economic growth in region is for SSA countries to not just embark on reforms but also improve its investment climate, enhance infrastructure and the protection of property rights (Ndulu, 2006). Second, FDI is vital because of its package of tangible and intangible assets and the fact that firms who engage in them are important players in the global economy (Ajayi, 2006). However, Sub-Saharan Africa only accounts for about 2% of total global FDI. Organisations such as the OECD, United Nations, and NEPAD have outlined that with the annual resource gap in SSA of between 10-15% of GDP (\$US60-64 billion), countries in SSA need considerable inflows of external resources in order to tackle the economic decline and improve development.

Third, economic growth in SSA also presents a puzzle. Irrespective of the growth optimism upon gaining independence (Garner, 2006; Mapuva and Chari, 2010; Tyler and Gopal, 2010), SSA countries have achieved lower economic growth rates compared to other developing regions (Ndulu, 2006; Ikejiaku, 2009). Although, growth rates in the region have not constantly declined, the constant fluctuation and most negative outcomes are a puzzle (Menson, 2012). Based on these fluctuations, the economic performance of the region is divided into 3 periods: the post-independence positive growth rates through the 1960s and the early 1970s; 20 years of economic growth decline and stagnation from 1975 to 1995; and 1996 onwards which is termed the period of recovery (Go et al, 2007; Tahari et al, 2004). Fourth, SSA contributes insignificantly to global manufacturing with less than 1% share in world's manufacturing export (Darley, 2012). Other than South Africa, countries in

the region in recent times have attracted very little inflows in the manufacturing sector (Pigato, 2000). Addressing all the issues identified above was the motivation for this study.

### **1.3 RESEARCH QUESTIONS**

The above discussed motivations for this study raised research questions in the areas of FDI, firm performance and economic growth.

1. What are the determinants of FDI in SSA?
2. How do the hypotheses developed under the theories of FDI explain FDI activities in SSA?
3. What are the determinants of firm performance in SSA?
4. Do some of the factors that influence FDI in SSA also influence firm performance in SSA?
5. Does FDI contribute to economic growth in SSA?
6. What are the factors responsible for the economic growth recovery of SSA?

### **1.4 RESEARCH OBJECTIVES**

The objectives of this research are set out to satisfy the following statements regarding FDI, firm performance and economic growth in SSA.

1. To investigate the determinants of FDI in SSA.
2. To examine how the hypotheses developed under the theories of FDI explain FDI activities in SSA.

3. To investigate how the two least FDI recipient regions (SSA and MENA) compare in their FDI determinants.
4. To investigate the determinants of firm performance in SSA.
5. To test whether some of the factors that influence the performance of SSA manufacturing firms also influence FDI.
6. To determine the impact of FDI on economic growth in SSA.
7. To determine the factors responsible for the economic growth recovery of SSA.
8. To derive policy implications based on the findings to improve FDI, the performance of manufacturing firms and economic growth in SSA.

## **1.5 DATA, SAMPLE AND TECHNIQUE**

All the analyses were carried out quantitatively using cross sectional OLS and panel data techniques (pooled OLS, fixed effects, GMM). Data were collected from secondary sources such as the World Bank Development Indicators, the World Bank Governance indicators, the World Bank Enterprise Survey, the United National Conference for Trade and Development, United States Geological Survey Mineral Resources, and the United States Energy Statistics, National Central Bank Databases, Political Terror Scale Database, and Global Terrorism Database. The sample size was made up of several SSA countries for the time period 1996-2010. However, to examine the third objective, a sample of MENA countries was included in some parts of the analysis. The sample size was very much dependent on data availability. Also, a statistical test was used to test the assumption of no structural and behavioural differences between sample sizes before either pooling or not pooling the data. FDI as a percentage of GDP was employed as the dependent variable to

model the determinants of FDI. Profit per worker was used as the dependent to model firm performance. Lastly, the growth rate of GDP was employed as the dependent variable to determine the impact of FDI on economic growth.

## **1.6 RESEARCH CONTRIBUTIONS**

The contributions of this research to the literature span not just SSA but other developing regions as well. Areas that were explored in this research have been under researched in the context of SSA partly due to data availability and lack of interest in the region. Two major studies are evident in the contributions: first, the determinants of FDI, and second, the impact of FDI on economic growth. To establish a nexus between these two, another empirical chapter on the performance of manufacturing firms was examined as this sector is very important in attaining the turning point in the structural transformation as well as, progressing along the investment development path. Similar to all the three empirical chapters are four factors: human capital, governance, infrastructure, and economic/market structure. These factors will be discussed in chapter two (Overview of Sub-Saharan Africa).

An investigation on the determinants of FDI contributed to knowledge in a number of ways. First, the research extensively used different hypotheses under the theories of FDI to explain FDI inflows into SSA. Most FDI studies tend to use these hypotheses sparingly. Second, past studies of FDI in SSA have captured just three theories (resource seeking, market seeking and efficiency seeking) out of the four location influencing factors. However, this study contributed to the literature on the locational motives of FDI by capturing the impact of strategic asset seeking. Third, past studies on FDI in SSA have not incorporated differences that arise from structural and behavioural factors however, this research does. Fourth, no study has investigated how the two least recipient regions of FDI (SSA and MENA) compare in their FDI determinants.

Regarding the study on firm performance, a number of contributions to the literature are made. First, the few studies that exist on firm performance in SSA do not capture all the broad determinants (the structure-conduct-performance hypothesis, efficient-structure hypothesis, and the environmental factors of firm performance) of firm performance. However, all three of the broad determinants of firm performance were used in explaining the features that create an environment in which SSA firms can operate and thrive. Studies on firm performance have generally neglected factors external to firms and how these affect their performance. Second, the research established a relationship between the factors that determine FDI and how they influence firm performance. Prior to this, no study in SSA has empirically tried to establish this relationship.

The contribution to the literature on economic growth lies in establishing the factors that have been responsible for the economic growth recovery of the region. Although it has been identified that the years from 1996 have seen promising growth rates for SSA after many years of economic decline, no studies have yet examined the factors that have contributed to this recovery. Thus, this research contributes to the literature by examining the factors responsible for this onward economic growth recovery in SSA.

## **1.7 MAIN FINDINGS OF RESEARCH**

On the determinants of FDI, findings showed that FDI inflows in SSA are best explained by return on capital, infrastructure development, market size, control of corruption, trade openness, strategic assets and human capital. Surprisingly, natural resource endowments are not significant determinants of FDI. Also, there were structural and behavioural differences between the two least recipient regions of FDI and when investigated separately, the marginal benefits from increases in the quality of FDI determinants will be more in MENA countries compared to SSA countries.

On the investigation of firm performance, findings showed that foreign ownership, size and human capital positively and significantly influenced firm performance. In contrast, competition, capital intensity, poor electricity delivery, and access to finance had negative impact of firm performance. However, corruption and political instability (except for the garments industry) had an insignificant relationship with firm financial performance. These findings also indicate that some factors that influence FDI also influence firm performance.

On the investigation of the impact of FDI on economic growth, findings surprisingly showed that FDI had an insignificant relationship with economic growth. Surprising too is the insignificant relationship between natural resources and economic growth. On the other hand, findings revealed that agricultural output, governance, merchandise exports, total official flows and fixed capital formation are factors responsible for the economic growth recovery of SSA. Further analyses as to why FDI and natural resources do not significantly influence economic growth in SSA showed that minimum threshold requirements are necessary in terms of basic formal education and governance.

With respect to the four factors common to all the empirical analysis, these findings show that they can influence economic development in Sub-Saharan Africa. Although amongst these factors, only economic structure will be a robust determinant of FDI, firm performance, and economic growth in SSA. This is an important factor as it is very vital for the Lewis turning point and progression along the investment development path.

## **1.8 RESEARCH OUTLINE**

The remainder of this thesis contains eight chapters. Chapter two provides an overview of SSA. This will outline reasons why the region is important to study. Factors that affect SSA, economic growth patterns in SSA, and FDI in SSA are discussed. Chapters three, four and

five provide the review of both the theoretical and empirical literature on the determinants of FDI, firm performance and the determinants of economic growth respectively. Although, the survey of empirical literature revealed inconsistent findings, the scope of this research was not to understand why this was the case rather it was to investigate how some variables can be used to answer the research questions. Chapter six, discusses the hypotheses to be tested, methodology, sample and data, and research findings on the determinants of FDI. Similarly, chapters 7 and 8 discuss the hypotheses to be tested, methodology, sample and data, and research findings on firm performance and the determinants of economic growth respectively. The research conclusions are in chapter nine. This presents a summary of the research objectives, research contributions, policy implications, research methodology, limitations of research, and possible areas for further research.



## **CHAPTER TWO**

### **OVERVIEW OF SUB-SAHARAN AFRICA**

#### **2.1 INTRODUCTION**

Sub-Saharan Africa represents that portion of the continent south of the Sahara desert. It is made up of 48 countries and one territory (Tyler and Gopal, 2010). It is very diverse in its historical, political, cultural and environmental contexts. The region covers 21.2 million square kilometres, which is characterised by desert with little vegetation in the Northern part; tropical forests in Central Africa; a wet and hot tropical climate found mostly in West and Central Africa; and a dry and cool highland climate in the Eastern plateau. The largest country is the Democratic Republic of Congo (2.2 million km<sup>2</sup>) and the smallest country is Sao Tome and Principe (1000 million km<sup>2</sup>). Nigeria has the highest population (168 million) and Seychelles the lowest (85,000). Approximately 815 million people (11.8% of the world's population) lived in Sub-Saharan Africa in 2010 and with an estimated population growth rate of 2.4% it is the region with the fastest population growth rate in the world (UNESCO, 2011).

Prior to 1880, few areas of the region were under the control of direct European Colonisers. However, after the Berlin conference of 1884-1885, Africa was sliced up and traded among various European powers including Spain, Germany, Britain, Italy, Portugal, France and Belgium. Only South Africa, Liberia and Ethiopia were not under European colonisation by 1913. By 1957, decolonisation has begun and in the 1960s only South Africa seemed not to be set for the recovery stage since it is yet to gain independence (Tyler and Gopal, 2010).

It is often said that Sub-Saharan Africa is a place where God comes to cry. According to Orakwue (2002), once it was a scramble for Africa; now we are told it is a struggle for Africa (De Maria, 2008, pp. 2). During the 1960s when most of Africa attained independence, the predictions of their economic advancement were positive and encouraging. However, decades later, the region is faced with the highest regional poverty rate (Go et al, 2007; Tyler and Gopal, 2010) and is the earth's poorest region. The majority of the available statistics on the region portray such a tragedy. The region is home to 10 percent of the world's population but accounts for 30 percent of the world's poor. Approximately 1 in 2 Africans or 310 million in total are judged to be poor, that is, spending less than "1 dollar a day" on basic necessities (Ndulu, 2006; Go et al, 2007). Sub-Saharan Africa as a whole has become identical with underdevelopment and low or non-existent economic growth (Garner, 2006).

Since the region is considered one of the poorest, the issue of economic growth will remain an essential challenge to governments in the region and international organisations. Hence, a much needed economic reform and social programme is required. However, most of these economic reforms and social programmes in the region seem to be ineffective (Ndambendia and Njoupouognigni, 2010). Therefore, the region's economic history since the 1960s has represented the typical definition of tragedy, and potentials unfulfilled coupled with catastrophic penalties (Easterly and Levine, 1997). As often argued, for the region to sustain growth, it must not just embark on reforms but also improve its investment climate, enhance infrastructure and protect property rights (Ndulu, 2006).

Investment is an important requirement for growth. Saving and investment rates in Sub-Saharan Africa are lower compared to the rest of the world thus, it is suggested that this is a constraint to development in the region. Sachs and Warner (1997) revealed that at least 1 to 3.4 percent difference in growth rates between Sub-Saharan Africa and South East Asia is

explained by low investment (Ajayi, 2006). Also, for the same level of investment, the region has on average only 1/3 to 1/2 of the growth in other developing regions of the world (Ndulu, 2006).

This chapter covers the following: 1. FDI into Sub-Saharan Africa and this will focus more on inflows; 2. Economic Growth of Sub-Saharan Africa and this will focus on development and growth in general with some comparison between countries in the region and other developing regions of the world; 3. Factors affecting Sub-Saharan Africa. Most of the analysis and review will draw on data from the 1960s, which accounts specifically for the Post-Independence periods. Factors affecting Sub-Saharan Africa will focus chiefly on human capital, governance, infrastructure, and economic structure.

## **2.2 FOREIGN DIRECT INVESTMENT INTO SUB-SAHARAN AFRICA**

Foreign direct investment is vital because of its package of tangible and intangible assets and the fact that firms who engage in it are important players in the global economy (Ajayi, 2006). However, Sub-Saharan Africa only accounts for 3% to 5% of the total global FDI. It is also unevenly distributed and concentrated in the hands of few countries (Sathye, 2009; Darley, 2012; Andrew, 2012). Between 1987-1990 and 1995-1998, 33% increase in FDI and 41% of average inflows to the region respectively went to four oil producing countries – Nigeria, Angola, Congo Republic and Equatorial Guinea (Ajayi, 2006; Pigato, 2000). In 2000, Angola accounted for 25%, Nigeria, 16% and South Africa 14.4% whereas Tanzania, Sudan, Zambia, Mauritius and Uganda received a total of 19% (Lartey, 2007). The small share in global FDI could be attributed to the following factors:

In the past, countries in the region regarded foreign capital with suspicion. Their fears were based largely on the likelihood of a loss of political sovereignty, the negative impact

on domestic firms due to increased competition, and if entry is majorly in the natural resource sector, it might lead to economic degradation (Dupasquier and Osakwe, 2006). Thus, they implemented many policies to deter foreign capital. The socialist development strategy adopted by many post-independence countries nationalised foreign companies and created state-owned industrial sectors (Pigato, 2000). Also, a reputation as an unattractive location for competitive production due to political and economic risks, low quality labour force, poor quality infrastructure, inefficient financial systems and distance from export markets limited FDI inflows (Pigato, 2000; Ezeoha and Cattaneo, 2011; Ajayi, 2006). Recent coups in Mali and Guinea Bissau, conflict in Cote d'Ivoire, Democratic Republic of Congo and newly independent South Sudan and Sudan are examples of such political and economic risks.

### **2.2.1 Patterns of FDI**

In the 1970s, Sub-Saharan Africa accounted for 6% of global FDI but this is about 3-5% at present. The share of FDI inflows to developing regions was 28% in 1976 but has declined significantly over the years irrespective of the fact that return on capital was higher in the region (Ajayi, 2006; Pigato, 2000). However, the region has on average increased its FDI inflows since the 1970s, but its share of FDI compared to other regions is very poor (Pease and Clark, 2007). Surprisingly, FDI lags behind official development assistance (ODA) and for the period 1970-2003, FDI inflows represented just 20% of all capital inflows it received (Ajayi, 2006). Thus, countries in Sub-Saharan Africa are yet to attract a pattern of resource flows that would give rise to a competitive upgrading of the productive or export structure. Even countries that have embarked on economic reform still attract the largest proportion of FDI to their primary sectors. The value of FDI in the region increased from \$US 36.7 billion in 1990 to \$US 108.5 billion and \$US 336.8 billion for 2008 (Ezeoha and Cattaneo, 2011). FDI inflows into the region climbed from an annual average of \$US

4.6 billion in 1991-1996 to \$US 18.8 billion in 2001. However, fell to about \$US 11 billion in 2002 (Ajayi, 2006) but have gradually increased to around \$US37 as at 2011 (UNCTAD, 2012).

**Table 1: Foreign direct investment net inflows (\$US) to developing and emerging regions (\$ billion).**

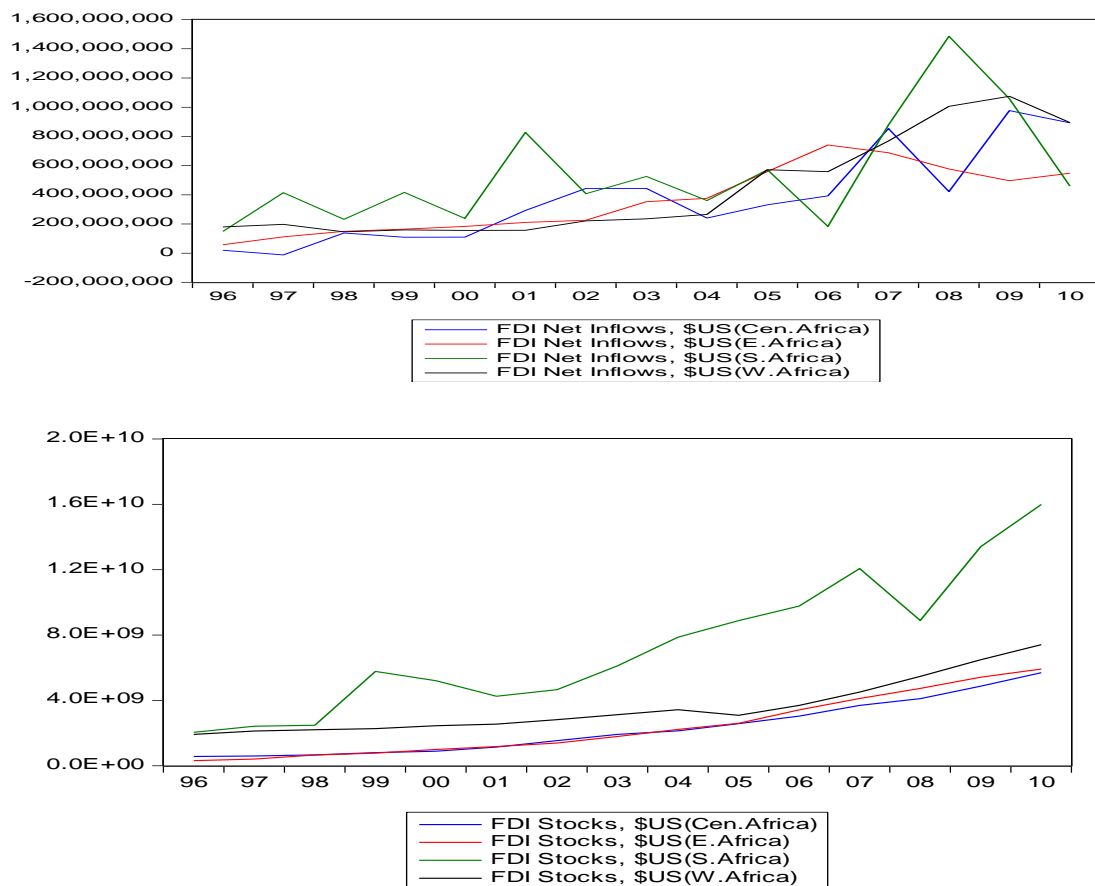
<b>Panel A FDI Inflows (2000 – 2010)</b>					
<b>Regions</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Coef of Var.</b>	<b>Minimum</b>	<b>Maximum</b>
<b>SSA</b>	5.92	9.11	1.54	0.74	28.70
<b>East Asia &amp; Pacific</b>	66.30	104.00	1.57	1.39	328.00
<b>Latin America &amp; Caribbean</b>	30.60	42.90	1.40	0.61	122.0
<b>MENA</b>	13.00	27.10	2.08	-0.02	87.50
<b>Europe &amp; Central Asia</b>	190.00	286.00	2.08	4.31	852.00

<b>Panel B Growth in FDI Inflows for SSA and MENA Regions</b>			
<b>Regions</b>	<b>2000-2002</b>	<b>2003-2006</b>	<b>2007-2010</b>
<b>SSA</b>	11.040	15.524	31.736
<b>MENA</b>	9.295	45.759	87.886

**Source: World Bank Development Indicators**

Table 1 reports levels of FDI inflows. It is clear that the countries in SSA have received by far the lowest amount of inward investment over this period, followed by the MENA countries. Interestingly, the coefficient of variation for all regions, with the exception of Europe and Central Asia is very similar, suggesting that the dispersion of foreign investment activity is uniform. Panel B in the table shows some encouraging growth in inward FDI for both regions in the present study although SSA lags behind the MENA countries to a considerable extent.



*Sub-Saharan Africa (Sub-Regional) Comparison of FDI (Inflows & Stocks). Sources: World Bank Development Indicators and UNCTAD*  
 Figure 1

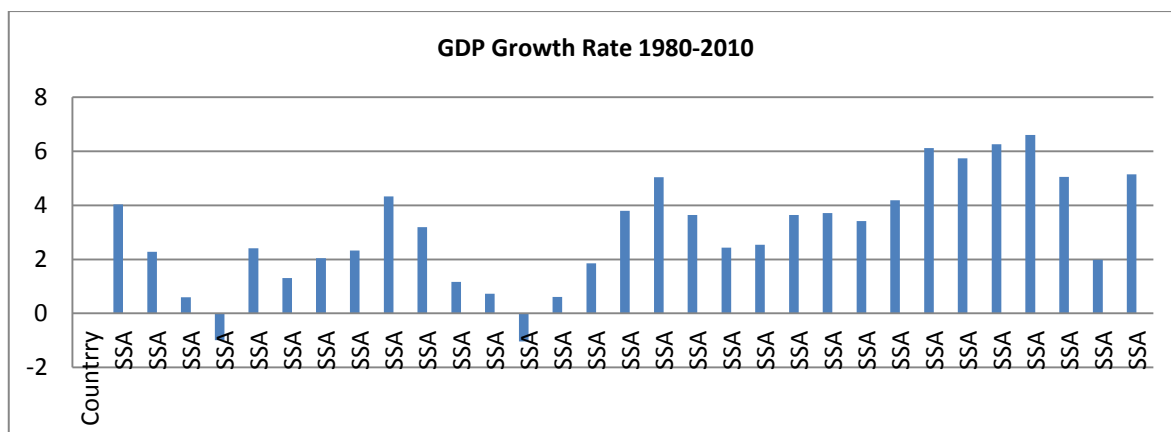
### 2.2.2 Sectoral FDI in Sub-Saharan Africa

There is not much information on the sectorial composition of FDI in the region but available information suggest that FDI stocks and flows are either in the primary sector, particularly petroleum (Ajayi, 2006). Asides, South Africa, other countries in the region in recent times have attracted very little inflows in the manufacturing sector (Pigato, 2000). A survey of multinational corporations in 2000 revealed that sectors with the greatest potential to attract FDI in Sub-Saharan Africa are natural resources and industries for which the domestic market is important, for example, telecommunication, communication, transportation, electricity, etc. with the percentage of FDI flows to the region in the primary sector estimated to be between 55% to 80% (Ajayi, 2006). This simply means that most of

the region's FDI flows are in the natural resource sector and that very little is attracted into the manufacturing sector, which provides technology, skills and market access (Ezeoha and Cattaneo, 2011; Pigato 2000). Statistics reveal that the region contributes insignificantly to global manufacturing with less than 1% share in world's manufacturing exports (Darley, 2012). Sub-Saharan Africa is chiefly endowed with natural resources. Besides diamonds, oil, gold, copper, etc. the region accounts for more than half of the world's reserves of chromium and platinum which could arguably explain the lack of competitiveness in the non-resource sector and the worsening rent seeking behaviour (Pigato, 2000).

### **2.2.3 How Much Investment Does Sub-Saharan Africa Need for Sustainable Growth**

Considering the huge saving and foreign exchange gaps in the region, considerable inflow of external resources is needed in order to sustain desirable growth levels (Ajayi, 2006). The Organisation for Economic Cooperation and Development, NEPAD and the Johannesburg World Summit have all outlined the importance of FDI to the achievement of sustainable development in Sub-Saharan Africa. With estimates of an annual resource gap in Sub-Saharan Africa at between 10-15% of GDP or \$US60-64 billion, NEPAD and the United Nations' Millennium Development Goals (MDG) have targeted an annual investment of \$US64 to achieve growth rates of about 7-8% annually and a better distribution of income to tackle the economic decline and improve development (Ajayi, 2006; Darley, 2012; Okojie and Shimeles, 2006). However, the 7-8% growth rate appears impossible for most countries in the region. In 2003, only Angola, Chad, Mozambique and Equatorial Guinea reached 7% growth rate (Ajayi, 2006; Tahari et al, 2004).



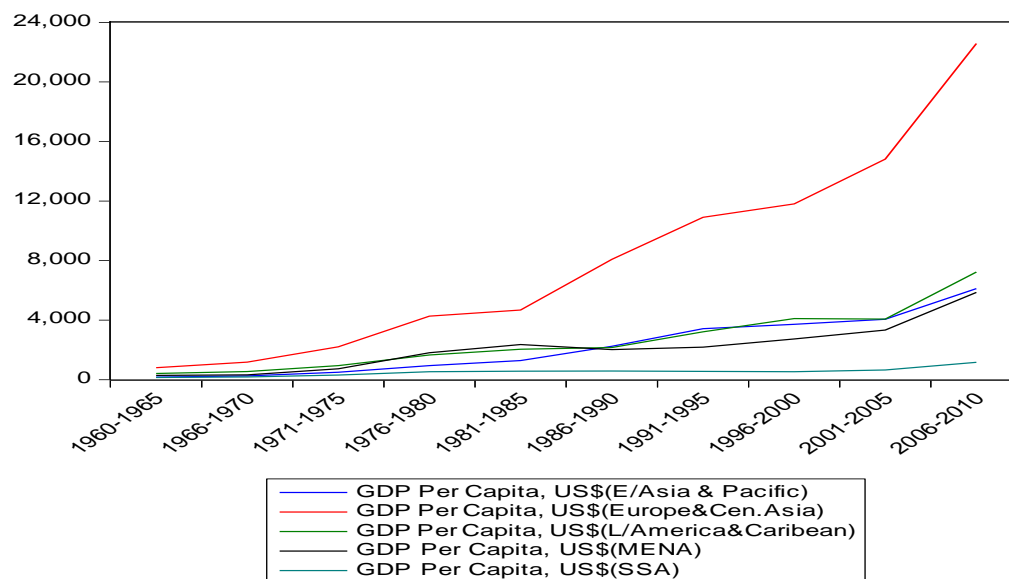
*Growth rates since the 1980s. Source: World Bank Development Indicators*

*Figure 2*

## 2.3 ECONOMIC GROWTH IN SUB-SAHARAN AFRICA

Sub-Saharan's African economy remains a confusing puzzle facing development and growth economists (Nunn, 2007) in spite of the initial optimism at independence (Garner, 2006; Mapuva and Chari, 2010; Tyler and Gopal, 2010). Since the 1970s, Sub-Saharan Africa has achieved lower economic growth rates compared to other developing regions (Ndulu, 2006; Ikejiaku, 2009). The disturbing fact is that in the 1960s, the region had a higher average GDP per capita (more than 60% when analysed in terms of purchasing power parity) compared to the developing nations of East and South Asia. However, by the early 1990s it had dropped behind both regions (5 times lower than both regions) (Ndulu, 2006). The average annual GDP per capita from 1975-2004 in Sub-Saharan Africa was -0.2% and while the world average GDP per capita increased from \$US4857 in 1975 to \$US8159 in 2004, that of Sub-Saharan Africa dropped from \$US1922 to \$US1811 (Garner, 2006).





*Regional Economic Growth Comparison. Sources: World Bank Development Indicators and UNCTAD*  
Figure 3

These periods of growth in the region are not constantly on the decline in the last 40 years but rather a scenario of fluctuations with a negative downturn (Menson, 2012). Thus, economic performance in the region can be divided into 3 periods namely: post-independence positive growth rates through the 1960s and the early 1970s; 20 years of economic growth decline and stagnation from 1975 to 1995; and 1996 onwards, which is termed the period of recovery (Go et al, 2007; Tahari et al, 2004). Irrespective of the low growth over the last few years, the region has a long way to go to make up for the last 40 years and to make a real impression in the pervasive poverty and underdevelopment (Tahari, et al, 2004). According to Easterly and Levine (1997), economic growth in Sub-Saharan Africa is associated with little investment, low schooling, political instability, insufficient infrastructure, high government deficits and ethnic fragmentation.

### 2.3.1 Factors Affecting Growth in Sub-Saharan Africa

Capital formation as a percentage of GDP, investment, levels of human capital, governance, quality of infrastructure are lower in Sub-Saharan Africa compared to other

developing regions (Go et al, 2007; Garner, 2006; Grier, 2005). The initial level of human capital, which was low at the time of independence, impeded the region's growth. Research by Artadi and Sala-i-Martin (2003) indicated that if the region's initial level of human capital was on a par with that of the OECD countries, the region would experience growth 1.4% higher than what was achieved. However, since the 1990s the region has tried to increase its level of human capital through public investment in education but the share it allocates to the sector is low compared to other regions.

High inequality, probably through its effect on political instability, can lead to low economic growth. However, some countries in the region have exhibited different trends. For example, Botswana has a high level of economic growth but experiences high income inequality. Rwanda, Uganda and Ethiopia have high inequality despite the restoration of a more politically stable environment (Okojie and Shimeles, 2006). Devarajan et al (2003) found that notwithstanding the lower rates of investment in Sub-Saharan Africa compared to other developing regions, it is not entirely the only constraint on the region's growth problems. They attributed it to the low productivity of investment which might not necessarily lead to improved growth with higher investment except the investments are made more productive.

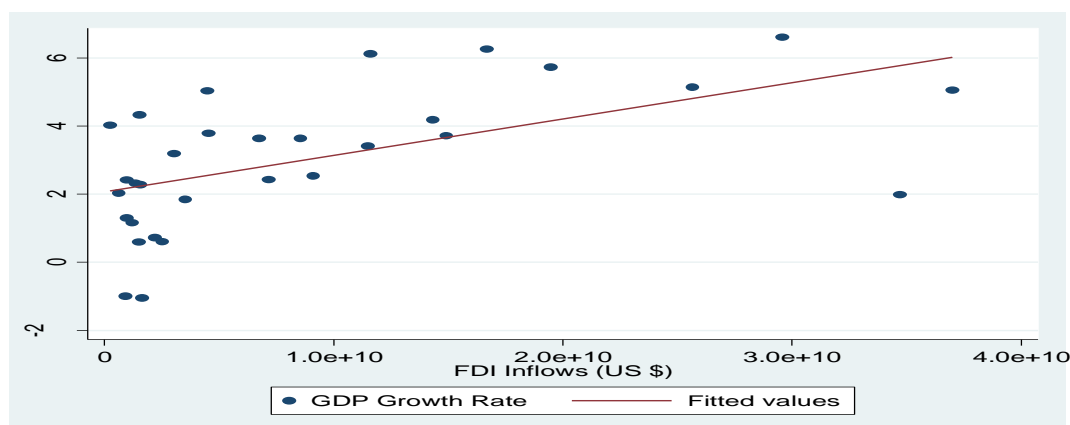
Growth determinants such as investment rates, human capital, capital accumulation, initial income/savings, domestic policies, political stability, etc. are not sufficient to account for all of the region's poor economic performance (Garner, 2006; Ndulu, 2006; Ghura, 1995). According to Barro (1991) and Levine and Renelt (1992), there exists significant negative effect in the African region. Sala-i-Martin et al (2004) support this assertion. He showed that annual growth rate is 1.28% lower in the region than it would be given the countries other characteristics.

### **2.3.2 Possible Factors Contributing to Economic Growth in Sub-Saharan Africa**

In the last few years, some countries in Sub-Saharan Africa have exploited new markets giving rise to what appears to be a historic reorientation of their trade and investment towards new partners as well as those within the region. The gains from this reorientation and trade expansion is not only associated with international trade but also in economies of scale, comparative advantage, dynamic effects through exports and long term growth. It is worth noting that the reorientation has occurred through trade creation rather than trade diversion as engagement with traditional partners has grown in recent years though at a slower pace when compared with trade with new partners. For Instance, non-traditional partners now account for about 50% of Sub-Saharan African exports (Selassie, 2011). Fosu (cited in Ghura, 1995) found strong linkages between export led growth and economic growth. Though, most exports from the region are concentrated in primary products, mainly oil and minerals. Only a few countries in the world possess enough natural resources to attain high welfare gains simply by trading them in a raw state with other countries. Nevertheless, the exports have benefited the region through the transfer of technology and the related learning-by-doing impact on growth and access to less expensive and less sophisticated technologies that are more appropriate for their level of development (Selassie, 2011).

Brazil, Indian and China have significantly increased their investments in the region. Chinese FDI to Sub-Saharan Africa as a percentage of the total FDI to the region increased from less than 1% in 2003 to 16% in 2008. Also, Indian investment stocks are almost as large those from China. China is launching numerous Special Economic Zones (SEZs) in the region which is aimed at encouraging manufacturing in the region. Similarly, India has a huge interest in the Mauritius' manufacturing sector. In Nigeria alone, China committed \$US5 billion (2.3% of Nigeria's GDP) for a free trade zone. Other SEZs of China in the

region are in Zambia, Mauritius and Ethiopia. The zones will help relocate some of China's developed industries (like textiles) to the region in clusters. The zones will produce manufactured goods for both advanced economies and African markets with the offer of additional investment, employment and technological transfer (Selassie, 2011).



*FDI net Inflows and GDP Growth Rate (Correlation positive 0.56). Data Source: World Bank Development Indicators*  
*Figure 4*

All the factors highlight the importance of openness to international trade, reduction in the cost of international trade (export processing zones), a favourable business climate to further boost investments and exports to a level comparable to other developing regions in order to maximise growth potential (Bruckner and Lederman, 2012). Also, the region needs to attract more FDI especially in the secondary sector since it is in that sector that countries are more likely to maximise potential benefits from investment. For example, in East Asia, considerable amounts of FDI in the secondary sector helps to diversify the export base and hence achieve higher sustained growth (Dupasquier and Osakwe, 2006).

## 2.4 FACTORS AFFECTING SUB-SAHARAN AFRICA

The region has been blighted by enormous problems ranging from corruption, bad governance, conflicts, diseases, poverty, etc. While there might be links between most of

these factors, each of them has unique consequences to the wellbeing of the region. These factors will be addressed using four broad pillars and would form the basis for the empirical chapters in the later chapters. These four broad pillars are namely: Human Capital, Governance, Infrastructure, and Economic Structure.

### **2.4.1 HUMAN CAPITAL**

Human capital, when characterised with quality is a very valuable source of capital which can impact on productivity and equality among nations. The concept of human capital identifies that human beings are as vital, if not more important, compared to physical capital in terms of wealth creation. Channels through which human capital impacts on the economy include: increased productivity, adaptability, allocative efficiency, demographic transition, and industrial revolution (Heckman, 2005). However, the quality of human capital obtainable in Sub-Saharan Africa is low when compared to other developing regions. Health and Education are both components of human capital and contribute significantly to human welfare (Appleton and Teal, 1999).

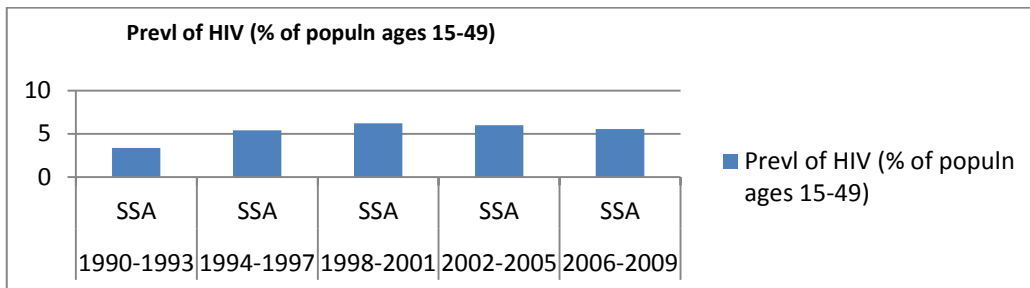
#### **2.4.1.1. Prevalence of Diseases**

The health of people in Sub-Saharan Africa is affected by communicable diseases like HIV/AIDS, tuberculosis, cholera, malaria and infant illness like polio. Such epidemics are worsened due to lack of health care provision, poor expenditures in health/basic amenities and lack of education. Studies have revealed that improved health care provision is positively correlated to the reduction in untreated sexually transmitted diseases (Chilton et al, 2006). Further evidence shows that only 42% of those living in rural Sub-Saharan Africa have access to clean water and over 60% of the population have no access to basic sanitation facilities and proper health care (Handley et al, 2009; Ikejiaku, 2009). In total,

infectious diseases cause 69% of the deaths in the region with enormous consequences on public health and the economy in the region (Young et al, 2010).

#### **2.4.1.1.1 HIV/AIDS**

Sub-Saharan Africa remains the epicentre of the global HIV/AIDS epidemic (Makombe, 2006) and has spread to such an extent it has been called an “African Tragedy” (Chilton et al, 2006), and an impediment to social and economic development (Blackden and Wodon, 2006). The region has 27 million (60% of global cases) people living with the virus with an estimated 3.2 million people infected in 2005 and 2.2 million dying of the virus in 2003 (Chilton et al, 2006; Agyei-Mensah, 2005; De Maria, 2005; Effeh, 2005). In 2007, 68% of new HIV infections in adults, 90% of HIV infections in children and 76% of deaths due to HIV all occurred in Sub-Saharan Africa (Lalloo and Pillay, 2008). The deaths equated to 75% of all AIDS related deaths in 2003.



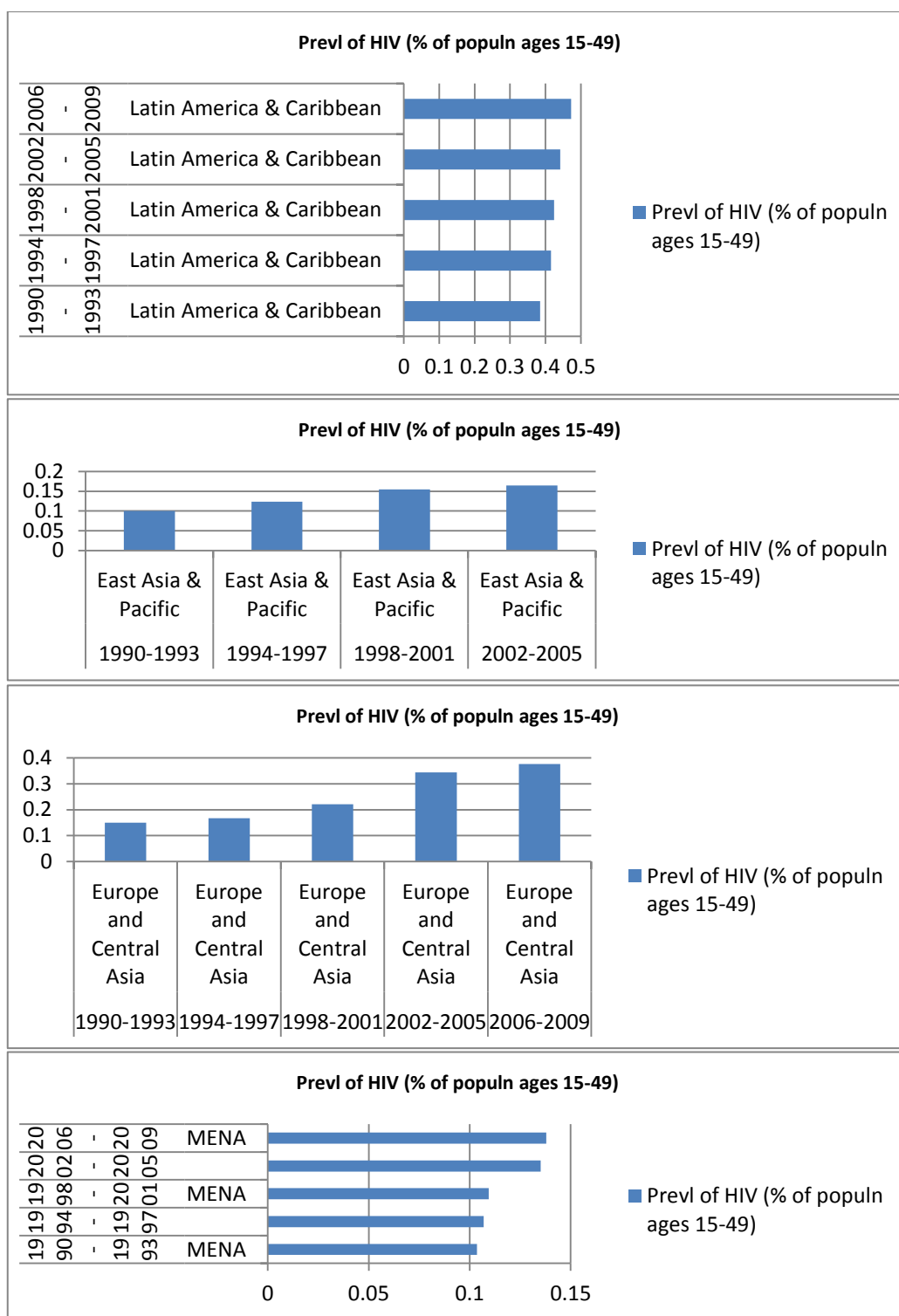


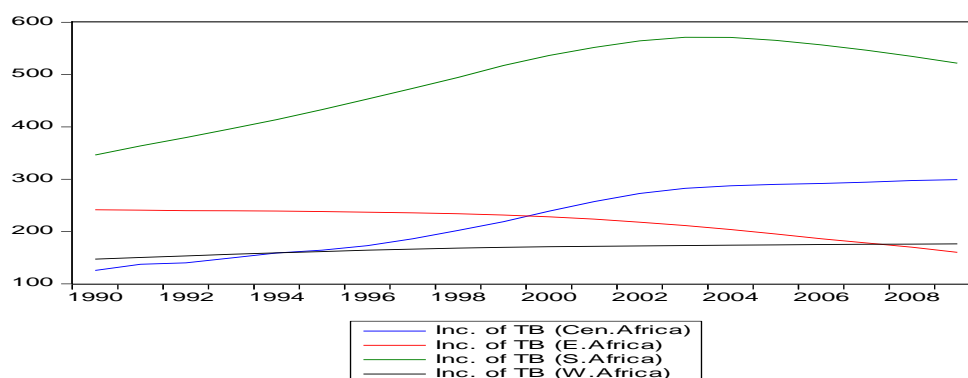
Figure 5: Prevalence of HIV by Regions  
Data Source: World Bank Governance Indicators

The prevalence of HIV/AIDS in the region reduces productive efficiency, the size of the workforce, life expectancy, and savings. Another impact of HIV/AIDS in the region is its

opportunistic infections. It is found to increase susceptibility to tuberculosis with 35% of all tuberculosis patients in 2004 also infected with HIV (Makombe, 2006; Young et al, 2010; Lalloo and Pillay 2008).

#### **2.4.1.1.2 Tuberculosis**

In 2004, the World Health Organisation (WHO) estimated tuberculosis infected persons in the region to be around 9 million. That is, 356 per 100000 people (Young et al, 2010) as compared to the 15 per 100000 in developed countries (Makombe, 2006). In 2006, the figure increased to 31% of the total tuberculosis recorded global cases and the highest per capita of 363 per 100000 people (Lalloo and Pillay, 2008). This revealed an increase in tuberculosis of 110 per 100000 persons at the end of the 20<sup>th</sup> century (Mukadi et al, 2001). However, incidence rates differ among sub-regions with the Southern and Eastern African countries having the highest per capita burden. On average, Southern African countries have tuberculosis rates of 400–700 per 100000, Central African countries, 100–200 cases per 100000, Eastern African countries, less than 200 cases per 100000 and West African countries, less than 100 cases per 100000. Factors such as poor health infrastructure, poverty, weak health systems, socio-economic conditions and HIV prevalence contribute considerably to tuberculosis in the region (Makombe, 2006).



*Sub-Saharan Africa Regional Prevalence TB Rates (% of Population). Source: World Bank Development Indicators*  
**Figure 6**



#### **2.4.1.1.3 Malaria**

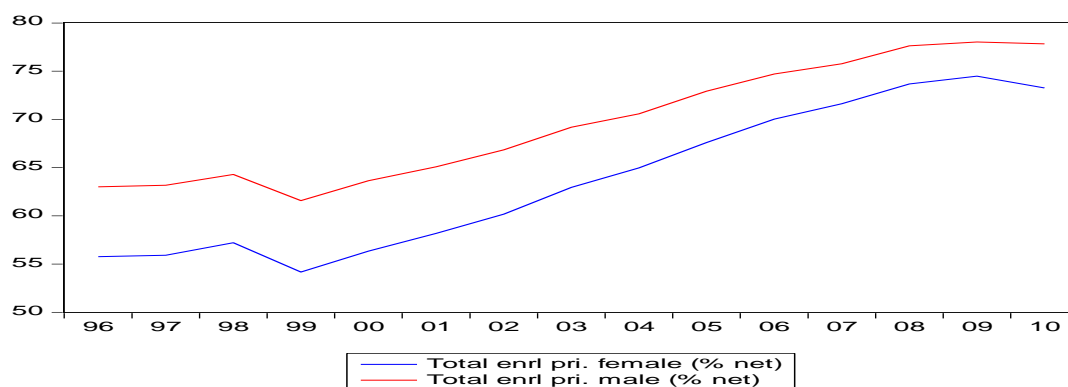
The parasite accounts for an estimated loss of 44.7 million disability adjusted life years, of which more than 80% is presently concentrated in Sub-Saharan Africa (Keiser et al, 2004). In 2003, 1 million people in the region died of Malaria of which 71% of those were infants below the age of 5 (De Maria, 2008). The World Malaria Report (2011) reveals that an African child dies every minute from Malaria (WHO, 2012). An estimation of the total number of urban dwellers in Sub-Saharan Africa that are endemic to Malaria, showed that in Chad, Kenya, Mali and Niger, approximately 74% of the population is at risk of acquiring the disease. The negative impacts of Malaria in the region are huge. It impedes the human health and well-being and its burden has increased in recent years thus, imposing enormous costs when measured in economic terms. Besides the short-run costs of Malaria such as, lost work time, child mortality and morbidity, costs of treatment, etc. it can also impose long-run costs such as, impediment to trade flows, tourism, foreign investment as multinational firms may be put off due to its high prevalence (Keiser et al, 2004).

#### **2.4.1.1.2 Low Levels of Education**

Education is a necessary tool in the advancement of an individual's economic and social welfare (Johannes, 2010; Lloyd and Hewett, 2009). It is estimated that 161 million adults (38% of the region's adult population) lack literacy skills of which 2/3 are women. 47% of school children globally are from Sub-Saharan Africa and 78 million of secondary school-age children are not enrolled in secondary school. However, while education enrolment rates in the region have increased considerably over recent years, the majority of countries in the region remain far from achieving the Education for All (EFA). In 2006, approximately 9 million children enrolled in pre-primary education, up from about 5 million in 1999. Nevertheless, irrespective of the increase, the figure represents as low as 14% of

the gross enrolment ratio (UNESCO, 2009) with the region having the lowest primary school completion rates in the world (Lloyd and Hewett, 2009). A number of factors have contributed to these poor performances in educational attainment such as inequality in education, low investment in education, religious diversities, etc.

Sub-Saharan Africa has been blighted by inequality in education despite the huge returns to investment in girls' education. Fewer than half the girls in the region enrol into primary school, and of those who enrol, less than half attain fifth grade (USAID, 2001) thus, placing the region as one of the leaders in gender gap discrepancies on education (Johannes, 2010). Studies have revealed that education, especially for girls, increases their health productivity, access to jobs and wages, which help in the reduction of poverty among women as well as child and mother mortality rates. For instance, educated women have healthier children and are more likely to send their children to school (USAID, 2001). Cornia and Menchini (2005) showed differentials between infant mortality rates among new-borns to mothers with a primary education and to mothers with no education. For the 13 Sub-Saharan Africa countries they surveyed, infant mortality rate among children of mothers with no schooling is at least 5% higher than among children to mothers with primary education. Therefore, the fact that girls and women make up 2/3 of the uneducated in the region really presents a disturbing trend in health, well-being and mortality rates (Okpala and Okpala, 2006). However, even if enrolment rates increase, the question remains, is the region able to provide a sufficient number of qualified teachers, schooling materials and necessary orientation?



*Sub-Saharan Africa: Total Enrolment Rates, Female & Male (Primary Education)*

*Source: World Bank Development Indicators*

*Figure 7*

In Sub-Saharan Africa, strict budgetary policies have put enormous strain on public school expenditure due to the financial problems they face. Also, the education systems have natural and artificial disasters such as poor economic performance, financial malfeasance, corruption, and diversion of resources from education to political projects (Okpala and Okpala, 2006). Figures show that only a small proportion of GNP is invested in education. In the region, about half of the countries spent less than 4% of their national income on education in 2006 (UNESCO, 2009). Hence, most of the region's labour force are poorly educated and are devoid of vital skills to function productively in the economy. Table 2 shows spending on education as a percentage of GDP in developing regions. Sub-Saharan Africa on average spends less than 4% of its GDP on education.

**Table 2 Government Spending on Education as a percentage of GDP (1996 – 2010)**

Regions	Government Spending on Education (% of GDP)				
	Mean	Std. Dev.	Coef of Var.	Minimum	Maximum
SSA	3.76	0.29	0.08	3.38	4.31
East Asia & Pacific	4.00	0.55	0.14	3.50	5.18
Latin America & Caribbean	4.23	0.61	0.15	3.46	5.82
MENA	5.39	0.64	0.12	4.67	6.48
Europe & Central Asia	4.99	0.29	0.06	4.45	5.52

*Source: World Bank Development Indicators*

Another contributing factor to the poor educational attainment in the region could be linked to the religious diversity seen in the region. Christian missionaries who came to the region in the 1800s, worked on the assumption that literacy was needed for evangelism and church growth therefore they established more schools in areas with the presence of missionaries as compared to those with little Christian missionary activity. Even after independence from colonial rule, the establishment of modern schools was delayed. Thus, areas or sub-regions of Sub-Saharan Africa that were beneficiaries of early Christian mission schools have indeed enjoyed much higher literacy rate than those with little missionary activities. In 2002, youth literacy rate in the predominantly Muslim country of Burkina Faso was 19.4% while the predominantly Christian country of Republic of Congo was 97.8% (Okpala and Okpala, 2006).

The multilingual nature of the region means literacy is pivotal to be able to communicate especially in the language of their colonisers for the purposes of trade and public affairs. Also, investment in formal and informal education presents the region benefits such as attracting needed investment, acquiring necessary skills for gainful employment, and ability to adapt new techniques and technologies.

### **2.5.1 GOVERNANCE**

Irrespective of the general consensus on the importance of good governance and institutions for economic development, Sub-Saharan Africa has frequently recorded poor levels of governance. Thus, according to experts, Africa's development problems are direct consequences of crisis in governance. These problems are attributed to high levels of corruption, political instability, and poor quality institutions (Brautigam and Knack, 2004).

### **2.5.1.1 Corruption**

According to Andvig (2008) corruption is a phenomenon that is difficult to observe though easy to recognise. The problem of corruption is viewed as multifaceted and complex and thus needs a comprehensive solution that cuts across disciplines (Mulinge and Lesetedi, 2002). Irrespective of its ubiquitous nature, there is no singularly accepted definition of corruption. The most common refers to corruption as the abuse of public power/position/office/role of trust/ or resources for private benefit (Andvig, 2008; Mulinge and Lesetedi, 2002; Bissessar, 2009). Bribery is viewed as the most common form of corruption but embezzlement, fraud, extortion, nepotism and/or granting of favours to personal associates are equally acts of corruption (Andvig, 2008; Moran, 2001; Jain, 2001). All share similarities because they are executed by at least one actor in a public position, they violate a given public law, the outcome is to the material benefit of the violator(s) and it impedes the stated aims of the organisation of which at least one of the actors is a member (Andvig, 2008). The major offenders are corporate senior officials and government officers who arrange secret deals involving large sums of money with local and international organisations, companies, etc. or who indulge in massive embezzlement of public or corporate funds (Mulinge and Lesetedi, 2002).

Considering that corruption is endemic, detrimental to development and very widespread, it affects all nations albeit in different degrees and forms (Mulinge and Lesetedi, 2002; Jain, 2001). However, corruption in Sub-Saharan Africa has reached cancerous proportions and is of global concern. It has infected almost all institutions, private and public, governmental and non-governmental organisations and has an accepted method of accumulating private property (Mulinge and Lesetedi, 2002). As noted by De Sardan (1999), corruption in almost all Sub-Saharan African countries has become a common and routine element which is frequently denounced in words but continued to be practiced. With a 10 point scale where 0

indicates a country is perceived as highly corrupt and 10 it is not, a Transparency International Index shows that only Botswana (6.1), Cape Verde (5.5) and Mauritius (5.1) scored above the mid-range point of 5 in all Sub-Saharan African countries surveyed (Transparency International, 2012).

In a survey conducted by Transparency International (TI) in 2006 and 2007 on a sample of households in various countries about their experiences with corruption revealed that citizens in Africa paid bribes more often than those in other continents. For instance, a truckload of goods travelling in Benin from Malanville to Cotonou will be faced with up to 16 control posts each extorting illegal fees depending on the kind of police or internal customs officer involved. To further illustrate how widespread corruption has become in the region a study by Reinikka and Svensson (2004) on Uganda's capitation grants for schools' non-wage expenditure between 1991 and 1995 found an average leakage rate of about 87%, with most manifesting at the local and district levels. A similar study in Tanzania but incorporating different forms of disbursements indicated a leakage rate of 57% for education and 41% for health expenditures. For the case of Chad, only 1% of expenditures in the health sector reached the final destination and in Ghana, the leakage rate was 50% for education (Andvig, 2008).

#### ***2.5.1.1.1 Lack of Participatory Democracy***

Participatory democracy is a necessary requirement in combating corruption (Strand, 2010). However, the crude concentration of power the region is known for has not been able to encourage its birth nor strengthen the press and civil society, all of which are necessary in monitoring and holding individuals in charge of the state and treasury accountable. For example, the judicial systems in Sub-Saharan Africa charged with prosecuting those involved in corrupt acts, are seen not to be politically independent and thus they equally

facilitate high-level corruption and participate themselves with huge pay-offs by corrupt officials (Mulinge and Lesetedi, 2002; Kassahun, 2011).

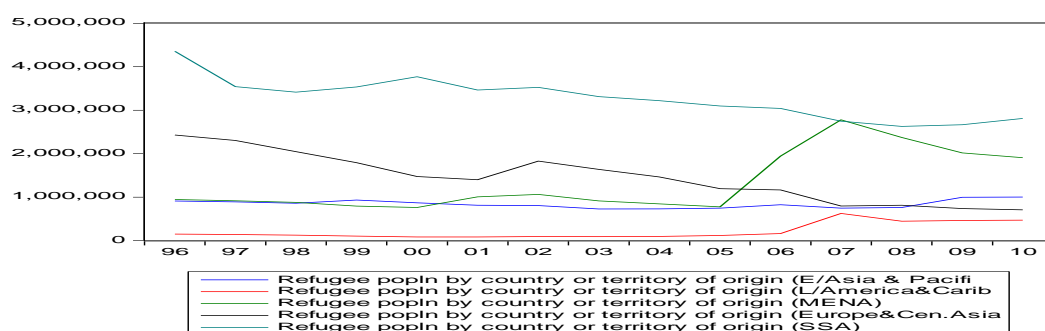
Research carried out by the State Failure Task Force in 2003, showed that partial democracies provide 7 times higher risk of conflict and state failure compared to full democracies or autocracies (Debiel, 2006). Many countries in the region are practicing partial democracy and improper democratisation systems marred with discrimination, unbalanced development, inexperienced leaders and long stays in office or are at the “growing pains” phase of democracy (Downie and Cooke, 2011). Democracy remained elusive for most of the region throughout the 1960s, 1970s and 1980s. Only Botswana and Mauritius have maintained democratic rule since the 1960s (Brown, 2005; Lindberg, 2006). Even when most of the countries in the region embarked on the democratic system, they lacked the structural underpinnings for democracy to develop (e.g, literacy and civil culture) (Brown, 2005).

#### **2.5.1.2 Conflict and Instability**

Before the 1990s development economists did not show much interest in problems associated with conflicts especially civil wars however, over the last couple of years, there has been a dramatic change with a rapidly growing literature on the political economy of conflict, civil war and complex humanitarian emergencies. So far, the interest has gradually shifted to include economic analysis of the dynamics of war and the political economy origins of conflict. This has led to commonly acceptable theories of conflicts, wars and violence. That is, violence and conflicts are functions of scarcity and conflict could further be a function of difference expressed through measures of inequality or ethnic fragmentation (Cramer, 1999). Since the 1990s, Sub-Saharan Africa has further been blighted by increasing violence and conflicts, interlocking civil wars with the most affected

being the Horn of Africa, West Africa and the Great Lakes Region – Democratic Republic of Congo, Rwanda, Uganda (Debiel, 2006; Lunn, 2006).

Since 1970 there have been over 30 major conflicts in Sub-Saharan Africa where this is defined as one in which at least 5000 people are killed. There are also more refugees and displaced persons in Sub-Saharan Africa than any other region in the world (De Maria, 2008; Cramer, 1999; Bujra, 2002). On the other hand, if an armed conflict is defined as a war where more than 1000 are feared dead per year, there would have been 20 recorded wars for same period. Over the years, the region has accounted for about 40% of the incidence of civil war and conflicts in the developing world (Go et al, 2007). The Millennium Development Goals Report (2005) estimated that between 1994 and 2003, over 9 million people in the region died as a result of armed conflict – representing 70% of all conflict related casualties around the world (Abbott and Phipps, 2009). These conflicts, with very few exceptions, such as those between Eritrea and Ethiopia are usually internal wars. However, these wars and conflicts have external involvement ranging from huge international support to foreign participation of a more private or commercial nature. For example, there are recorded cases in Angola, Liberia, Rwanda (Cramer, 1999) and more recently, Libya.



*Refugees by Region (Data source: World Bank Development Indicators)*  
Figure 8

The economic impact of wars in Sub-Saharan Africa is huge and felt all across society. However, higher negative costs to the economy are felt more in internally fought wars and



the difficulty in reintegrating into international economic and political relations. Resources meant for social and economic development are diverted for the purposes of war and the purchase of military equipment. Investment is deflated, competitiveness is impinged, there is a shortage of foreign exchange, a decline in agricultural labour force and production and infrastructure such as bridges, rails, roads, power lines are damaged during war time conditions (Cramer 1999; Ikejiaku, 2009). For example in Rwanda, the tea and coffee harvests were lost and vandals left tea factories and coffee depulping machines inoperable. Statistics show that between 1970 and 1997, Sub-Saharan Africa lost \$US52billion as a result of conflict related incidents and that agricultural output in Angola at the end of the 1990s was significantly below half what it would have been in the absence of war. Ethiopia, Mozambique, Sudan, etc. are other countries with severely affected agricultural outputs (Cramer, 1999). Also, in an index in 1996 indicating the 60 most insecure states in the world, 10 countries located in Sub-Saharan Africa out of the 15 are most at risk (Debiel, 2006).

**Table 3 Summary of some of the causes of instability in some Sub-Saharan African countries**

Country	Conditions	Catalysts	Triggers
<i>Angola</i>	Rapid urbanisation coupled with wealth disparity An economy narrowly based on oil	Increasing the gap between expectations and delivery of public services	The president's (Dos Santos) succession Economic downturn 2012 legislative elections
<i>Botswana</i>	Rapid Urbanisation An economy narrowly based on diamonds	Increases in level of unemployment The inability of government to maintain welfare state	Economic crisis in South Africa Drought
<i>Ethiopia</i>	Regional Insecurity Domestic Insurgency Legacy of previous conflicts	Rising border and tensions amongst ethnic lines Growing discord within the ruling party Rising food prices	The president's (Meles Zenawi) succession Split in the ruling party Military attack by a neighbouring country or internal armed movement
<i>Ghana</i>	Shortfall in the agricultural sector Land ownership disputes Over-centralised political system	Increase in youth unemployment Rise in drug smuggling Advent of large scale oil production	Close or contested out-come to 2012 election
<i>Kenya</i>	Land distribution Ethnic cleavages Rapid urbanisation	Land disputes Indirect effect arising from the Somalia violence Non implementation of the constitution Political manipulation of ethnicity and economic	The conviction of leading politicians by the International Criminal Court (ICC) Proximity of the 2012 elections

		inequality	
<b>Nigeria</b>	Economy narrowly dependable on oil Regional inequality and rivalries Ethnic and Religious fragmentation Weak governance and lack of quality institutions	High levels of corruption Political manipulation of ethnic/religious/regional differences	Emergence of the terrorist groups Militancy in the Southern Region Elections and changes to Federal arrangements
<b>Rwanda</b>	Ethnic fragmentation Unequal land tenure Legacy of genocide Economic inequality	Elements of authoritarianism in government Perceptions of ethnic favouritism Economic slowdown Entanglement in the Democratic Republic of Congo	Split in ruling party or coup d'état attempt The President's (Paul Kagame) succession Tensions in relations between the Democratic Republic of Congo
<b>Senegal</b>	Separatist movement in Casamance Intra-religious tension Rapid urbanisation Different opinions as regards to the role of religion in politics	Economic decline Increases in unemployment Erosion of authority structures Political manipulation of youth	President Abdoulaye Wade's succession Contested outcome of the 2012 election
<b>Sudan</b>	Poor governance coupled with legacy of violence and tyranny An economy narrowly depended on oil Contested national identities	Rising food prices Political manipulation of ethnic/regional/religious identities Economic downturn Climate change	Crisis in North-South negotiations Split in ruling party Coup d'état attempt Convergence of armed challenges on border/Darfur/East Halt in oil production
<b>South Sudan</b>	High levels of poverty Legacy of conflict Lack of infrastructure Lack of security Ethnic/regional/religious fractions	Lack in the provision of public service Political manipulation of ethnic grievances Rising border insecurity	Split in ruling party Internal armed uprisings and attack by North Sudan Crisis in North-South negotiations
<b>Uganda</b>	Tensions along regional/ethnic/religious lines Militarisation of politics	Rising Inflation High levels of corruption Dwindling government revenue Heavy-handed responses to social protest	President Yoweri Museveni's succession Attacks by terrorist groups in Somalia Influx of refugees from South Sudan Split in ruling Party

Source of Table: Downie and Cooke, 2011

## 2.6.1 INFRASTRUCTURE

Public infrastructure refers to more general traditional infrastructures such as telecommunication, electricity, transportation, etc. (Roller and Waverman, 2008). There are arguments to support the positive impact of public infrastructure on economic development. These are further strengthened for Sub-Saharan Africa where infrastructure can help cushion the impact of landlockedness and the remoteness from global market centres (Calderon and Servén, 2008). The channels through which public infrastructure can influence economic

development are through reduced costs of production and investment, economic diversification, productivity gains, and improved quality of human capital (Kessides, 1993).

However, amongst all developing countries, Sub-Saharan Africa has consistently ranked lowest in terms of infrastructure performance and this has been attributed as one of the factors responsible for lack of economic development (Calderon and Serven, 2008). Merely 29% of the roads are paved, barely 25% of the population has access to electricity, and there are lesser than 30 landlines available per 1000 people (Aker and Mbiti, 2010). With respect to business competitiveness, firms report infrastructure constraints as major obstacles. Table 4 shows the percentage of firms that report electricity and transportation as constraints to their business activities. In Sub-Saharan Africa, 48% of firms report electricity as a major constraint but this compares to 21% in East Asia. Likewise, 28% report problems with transportation as compared to 8.4% in Central Asia.

**Table 4 Some Constraints to Business Activities**

<b>Infrastructure Constraints</b>	<b>SSA</b>
Percentage of firms reporting electricity as a major constraint	44.8
Percentage of firms reporting transportation as a major constraint	28.6
Number of electrical outages in a typical month	7.8
Average duration of electrical outage (hours)	6.6
Days to obtain an electrical connection	32.8

*Source: World Bank Enterprise Surveys, 2013*

### **2.6.1.1 Poor Telecommunication Networks**

Economic development can be impacted upon by telecommunication infrastructure in several ways. This is mostly through investing in telecommunication infrastructure which leads to economic growth because products-cable, switches, etc. will lead to increases in the demand for goods and services used in their production (Roller and Waverman, 2001). In Sub-Saharan Africa, the telecommunication systems are underdeveloped which tends to

increase the transaction costs of gathering information and acquiring services. Lumbila (2005) showed that lack of infrastructure as proxied by telephone connections was not only an impediment to domestic investment but also to economic growth. Sub-Saharan Africa presents a classic example of imperfect and asymmetric market and thus, not having a reliable telecommunication system can hamper avenues through which cheaper means of information can be searched (Aker and Mbiti, 2010).

#### **2.6.1.2 Poor Electricity Delivery**

Sub-Saharan Africa's largest infrastructure deficiency is most pronounced in the power sector. The sector is characterised with poor quality of public electricity service, lack of access (especially in rural areas), and very little investment (UN-HABITAT, 2011). The deficiency has posed serious challenges to the region's wellbeing. According to Ndulu (2006), an increase of per capita production of the power sector in Sub-Saharan Africa to the level of East Asia can lead to a 0.5% point increase in the growth rate of GDP. With a population of around 800 million, Sub-Saharan African countries produce collectively about as much power as Spain, which has only a small fraction (5%) of the entire population (UN-HABITAT, 2011).

The poor electricity supply in Sub-Saharan Africa is associated with reduced productive investments and loss of competitiveness amongst firms. For example, MTN Nigeria, which is Nigeria's leading mobile provider, spends over \$5.5 million monthly to power its 6,000 generator plants across the country. Many smaller countries in Sub-Saharan Africa have power capacity below 500-megawatt and thus, depend on alternative sources of power that can cost as much as \$0.35 per kilowatt-hour run. The economic costs of the severe power outages that South Africa experienced in 2008 was estimated to be around \$245 to \$282 million, with half of the losses in mining (UN-HABITAT, 2011). Data in table 5 show that

Sub-Saharan Africa lags behind in both the percentage of population with electricity and the rate of electrification.

**Table 5 Access to Electricity**

<b>Regions</b>	<b>Population without Electricity (in million)</b>	<b>Electrification Rate %</b>
<b>SSA</b>	585.191	30.525
<b>East Asia &amp; Pacific</b>	181.996	90.814
<b>Latin America</b>	30.656	93.2
<b>MENA</b>	22.946	94
<b>South Asia</b>	493.438	68.472

*Source: WEO, 2011*

### **2.6.1.3 Poor Transportation Networks**

The transportation infrastructure in Sub-Saharan Africa is still relatively underdeveloped and thus, hinders its participation with the global economy. Whilst some Sub-Saharan African countries have the basic building blocks of a transport infrastructure, it is however, very inefficient. Besides having substandard transportation infrastructure, the road networks in Sub-Saharan Africa is only about 30% of that in other developing regions. Similarly, the rail networks are often disjointed, and represent an insignificant proportion of global railway passenger traffic (UN-HABITAT, 2011). The failure to improve and maintain port and transport infrastructure in Sub-Saharan Africa has been responsible for its lack of competitiveness in global exports and also serves as a disincentive for export oriented investments (Amjadi and Yeats, 1995). This is further supported by Limao and Venables (2001) when they provided evidence to show that Sub-Saharan Africa's low levels of trade are largely due to poor transportation networks. Table 6 shows the low levels of infrastructural capacity in Sub-Saharan Africa when compared to other developing regions.

Table 6

## Measures of Infrastructure Capacity

Regions	Electricity Production (in billion kWh)	Road Paved, (% of total roads)	Telephone Lines (per 100)
SSA	370.825	17.190	1.433
East Asia & Pacific	4799.470	49.207	18.266
Latin America & Caribbean	1126.975	26.233	15.698
MENA	443.228	77.299	12.011
Europe & Central Asia	4904.892	86.410	37.121

Source: WDI, 2013

## 2.7.1 ECONOMIC STRUCTURE/STRUCTURAL CHANGE

Structural change focuses on the mechanism by which developing countries transform their domestic economic structures from that which is heavily relied on traditional subsistence agriculture to a more industrially diverse manufacturing and service economy. In the structural change hypothesis, development requires more than just accelerated capital. The process of transformation starts to occur when the manufacturing sector begins contribute a significant proportion of the national income when compared to the agricultural sector (Todaro and Smith, 2009). The Lewis model, the “patterns of development” empirical analysis of Chenery, and the investment development path of Dunning (and later Narula) are the widely used representative examples of the structural-change approach.

### 2.7.1.1 The Lewis Model

Lewis (1954) developed a growth model based on the Smith growth model. He argued that for a country to develop, it needs a transformation from peasant farming to industrialisation. The two-sector classical growth model assumes that in developing countries, surplus unproductive labour in agriculture (subsistence sector) is absorbed by the growing need for labour in the industrial sector. This type of structural transformation is what Lewis regarded as the necessary condition for cumulative and self-sustaining economic development (Johnston and Mellor, 1961; Christiaensen et al, 2011). The process

of labour transfer and the growth of output and employment in the modern sector is the main focus of the model. Modern agriculture is often included in the modern sector (Todaro and Smith, 2009). Thus, the Lewis turning point is the structural change from an excess supply of labour to one of labour shortage in the traditional agricultural sector (Xiaobo et al, 2011).

SSA is the most agrarian region with very little manufacturing activity thus, prompting the argument that the region's destiny is rooted in peasant agriculture (Rigg, 2006). To practically realise the importance of non-agricultural employment for rural household in SSA is an enormous challenge considering that its industrial record has been associated with underperformance and lack of competitiveness (Bryceson, 1996). Table 7 shows sectoral contribution to GDP of the agricultural and manufacturing sectors. The agricultural sector in SSA contributes more to GDP when compared to manufacturing thus, suggesting that the economic structure is somewhat behind the process of transformation. Another evidence to support the absence of structural transformation is on table 8.

**Table 7 Sectoral (agricultural and manufacturing) share to GDP, 1990 – 2010**

<b>Regions</b>	<b>Share of GDP (Agriculture)</b>	<b>Share of GDP (Manufacturing)</b>
SSA	18.834	13.133
East Asia & Pacific	5.694	23.524
Latin America & Caribbean	6.277	18.774
MENA	8.664	11.380
Europe & Central Asia	3.039	17.998

*Source: WDI, 2013*

### **2.7.1.2 Patterns of Development**

Similar to the Lewis model, the pattern of development analysis focusses on the chronological process through which the economic, industrial, and institutional structure of a developing economy is transformed. This transformation leads to traditional agriculture

being replaced by mainly the manufacturing sector as the main source of economic growth (Todaro and Smith, 2009). The patterns of development analysts argue that a set of interrelated changes in the economic structure of an economy is one of the requirements for the transformation from a traditional economic system to a modern one. These changes can be in the form of composition in demand, international trade, resource use, employment, and socioeconomic factors such as urbanisation and population distribution. These changes are divided into domestic and international constraints (Chenery and Srinivasan, 1998; Chenery and Elkington, 1979).

Factors such as the availability of resources, population size, and government policies are some of the domestic constraints while access to external capital, technology, and international trade are international constraints. Whilst differences in development level amongst developing economies are considerably due to domestic and international constraints, the latter is seen as the main difference in the development level between developing and industrialised economies (Todaro and Smith, 2009).

Technological capabilities, economic diversity, export competitiveness, and share of labour force in formal employment are some of the factors responsible for the huge gap between SSA countries and industrialised countries. With respect to government policies and objectives, most of the state institutions in SSA are poorly run and lack the incentives to implement economic competitiveness. The hostility of government policy toward the private sector has also hindered innovation, and often times, firm owners prioritise rents induced by government controls at the expense of efficiency and competitiveness. Also, formal employment which is an effective way to measure economic transformation is relatively low in SSA. A larger number of the employed are engaged in low productivity agriculture when compared to manufacturing (Ansu, 2013). Table 8 shows the sectoral share to employment



by agriculture and manufacturing and it evident SSA is still burdened with lack of economic transformation.

**Table 8 Sectoral (agricultural and manufacturing) share to total employment, 1990 – 2010**

Regions	Share of Employment in Agriculture	Share of Employment in Manufacturing
SSA	55.9903	14.7429
East Asia & Pacific	43.5447	22.1667
Latin America & Caribbean	18.0266	18.8909
MENA	23.1339	24.7267
Europe & Central Asia	12.2806	20.1421

*Source: WDI, 2013*

### **2.7.1.3 Investment Development Path**

The investment development path (IDP) is a framework developed to understand the dynamic relationship between a country's level of development and its investment position. The hypothesis is built on the assumption that as a country develops, the conditions for domestic and foreign companies will change with such changes having an impact on inward and outward FDI (Dunning 1981; Buckley and Castro, 1998). Narula and Dunning (2010) summarised the basic principles of IDP as follows. First, there exists a systematic relationship between the economic structure of a given location and the structure, extent and the nature of FDI activities in that location. This relationship also reflects the level of development of that given location. Second, there is an interactive effect between the ownership advantages of domestic firms; the ownership advantages of MNEs; and the locational advantages of countries. The MNE-assisted hypothesis is built on this three-way interaction. Third, this relationship can be categorised into five stages and all things being equal, this stages can be observed in all economies.

The first couple of stages are as follows: Least developed countries experience negative net outward investments and non-existent outward FDI since they are net FDI receivers.

These countries possess insufficient locational advantages as a result of limited locational advantages such as low per capita income, uneducated workforce, poor infrastructure and political instability. Thus, inward and outward investments are very limited as investors would favour accessing these countries through trade. Also, at this stage, countries that can attract a considerable inflow of FDI are those abundantly rich in resources and the role of government is mainly in the provision of basic infrastructure, education and health. However, over time, the negative net outward investment decreases because of increased FDI inflows though outward investment will still remain low because domestic firms lack ownership advantages. This change in pattern would have arisen due to improvements in locational advantages of these countries in areas such as infrastructure, educated workforce, natural resources and market liberalisation. Market liberalisation will also facilitate better infrastructure, training, technology and capital intensive production (Narula and Guimon, 2010; Fonseca, et al, 2007).

The third stage of the IDP is characterised by low FDI inflows and high outward FDI. Domestic firms now have good ownership advantages and stronger competitive power within the domestic market. Also, comparative advantage in labour-intensive activities will decline, wages will increase, and countries at the lower stages of their IDP will be a target for outward FDI. At the fourth stage, a country's NOI is positive and the growth rate of outward FDI is more compared to that of inward FDI. Domestic firms are able to compete effectively with foreign firms as well as penetrate foreign markets. At the final stage, the NOI will revolve around zero which is characterised by alternating positive and negative balances depending on short-term changes in exchange rate and economic cycles (Dunning and Narula, 3003). Also, at this stage, a country's NOI position and GDP per capita are no longer reliable guides of a country's competitiveness (Buckley and Castro, 1998).

Theoretically, SSA countries are at the initial couple of stages of this development. This claim is evident in some of the factors already identified in this chapter such as, low human capital, poor quality of governance, underdeveloped infrastructural systems, and lack of firms' competitiveness. But with the associated benefits attached with foreign direct investment and better climatic business environments, the region, if boosted with the desired level of investment and good climatic business conditions will overcome these challenges and attain socio-economic development.

## **2.5 CONCLUSION**

Sub-Saharan Africa presents a difficult puzzle to solve. Its economic downturns, instability and under-development persist even in the wake of the progress experienced in other developing regions. This chapter and in particular, the sections on some of the factors that affect SSA is very important to the overall structure of the thesis. This is necessary as it provides a support for the foundation upon which all the empirical chapters are linked to. Some of the factors that affect SSA were broadly categorised into human capital, governance, infrastructure and economic structure. These factors are of importance to the literature of foreign direct investment, economic growth, and industrialisation.

Areas that have been outlined during the course of this chapter show that governments need to play major a role to help the region interact positively globally. One way to achieve the desired positive outcome is through foreign investment, not just in the primary sectors but in the secondary sectors, especially manufacturing. With huge saving gaps in the region and the estimated 7% growth per annum needed for the region to achieve sustainable development, investment in the region is critical. However, sustaining an environment for investment to thrive is another major challenge considering the level of instability, prevalence of disease, lack of education, poor infrastructure and market access, etc. which

characterise the region. In the case of developing countries, sustaining huge amounts of FDI requires basic infrastructure, human capital through education and training, market access, appropriate institutions and good government policies.

## **CHAPTER THREE**

### **THEORIES OF FOREIGN DIRECT INVESTMENT**

#### **3.1 INTRODUCTION**

Many theories have been developed as a result of the rising interest in foreign direct investment (FDI) location (Moosa, 2002; Freckleton et al., 2012; Konig, 2009; Blanc-Brude et al, 2014). Similarly, the complex nature of the theoretical foundation and literature of FDI are now fragmented across different areas of economics and international business (Braunerhjelm and Svensson, 1996). However, in the early research on FDI, there was a limited theoretical framework and theories were developed independently based on a trade theory perspective (Faeth, 2009). These theories aimed to explain why multinationals undertake FDI, the preference for business activities in one country rather than another and the reasons behind the particular mode of entry (Moosa, 2002). As Faeth (2009) and Denisia (2010) argued, current research in the field of foreign direct investment shows that there is no single theory of foreign direct investment, rather a variety of theoretical models, which explain foreign direct investment and the location decision of multinational firms. Each theory adds some new elements and criticisms to existing theories. This chapter reviews the theories of FDI classified under the following headings: Theories Assuming Perfect Markets; Theories Assuming Imperfect Markets; Other Theories and Theories Based on Other Factors (Moosa, 2002). It is worth noting that there is some overlap among these theories as they are not entirely independent of one another. Also, some empirical studies on the determinants of FDI will be reviewed and summarised.

## **3.2 THEORIES ASSUMING A PERFECT MARKET**

For this theory, three hypotheses can be formulated: the differential rates of return hypothesis, the diversification hypothesis; and the output and market size hypothesis (Moosa, 2002).

### **3.2.1 The Differential Rates of Return Hypothesis**

This is one of the first attempts to explain FDI flows (Moosa, 2002). In the Heckscher-Ohlin model of neoclassical trade theory, FDI was treated as part of international capital transfers (Jonathan and Colin, 2006; Wilhelms and Witter, 1998). The Heckscher-Ohlin model was based on the assumption that commodities vary in relative factor intensities and countries vary in relative factor endowments, which in turn leads to differences in international factor prices. A capital abundant country will engage in exports of capital intensive goods or where commodity trade does not exist, will move capital to a foreign country where returns are higher on capital and lower on labour until factor prices are equalised (Vintila, 2010, Calvet; 1981; Jonathan and Colin, 2006; Wadhwa and Sudhakara, 2011).

The theory further suggests that assuming there is no risk or barriers to capital movements, capital will flow from countries with low rates of return to countries with high rates of return (Vintila, 2010; Wilhelms and Witter, 1998). Based on this hypothesis, risk is neutral, where there are no monopolies or oligopolies, thus making the rate of return the only characteristic investment decisions depend on (Moosa, 2002). However, the existence of risk and barriers to capital movement might render this hypothesis untrue since capital can freely move in any direction (Vintila, 2010). The risk being neutral for this hypothesis also means that investors consider domestic and foreign direct investment to be perfect substitutes or generally, that investing in any country including the home country is a

perfect alternative for direct investment in any other country (Moosa, 2002). Dunning (1988) argued that there are problems associated with viewing FDI as part of neoclassical capital theory. He stated that since FDI also involves the transfer of technology, organisational and management skills, it is wrong to assume it as just the transfer of capital. Also, the resources are transferred within the firm rather than between two independent parties in the market place as is the case with capital (Jonathan and Colin, 2006). Kindleberger (1969) and Hymer (1976) also criticised the neoclassical approach due to its limited ability to explain FDI flows. They argued that FDI needs market imperfections to flourish in comparison to the neoclassical theory assumption of a perfect market (Faeth, 2009).

Most of the empirical studies that have tested this hypothesis have failed to provide supporting evidence for the theory. Also, the hypothesis is not consistent with the observation that countries experience inflows and outflows of FDI simultaneously. The problem of this inconsistency arises because the hypothesis suggests capital flows in one direction only (from low rate of return to high rate of return countries) and not vice versa (Moosa, 2002).

### **3.2.2 The Market Size Hypothesis**

The market size hypothesis asserts that the amount of FDI in a host country depends on market size. Host country characteristics like market size, market growth and the presence of local competition have an influence on FDI decisions. Also, empirical studies have shown it to be the most robust FDI determinant (Moosa, 2002; Hood and Young, 1990; Demirhan and Masca, 2008; Brewer, 1993; Li and Guisinger, 1992; Demirbag et al, 2007). FDI will move to countries with bigger markets, developing markets and higher purchasing power, thus enabling firms to receive higher returns on their capital and increased profits from their investments. Gaining access to the markets of India, China and Indonesia could

be the reason behind a fresh wave of FDI since the 1990s. However, market size might be irrelevant for Vertical FDI (Demirhan and Masca, 2008; Moosa, 2002; Sethi, et al, 2002).

Several studies analyse the relationship between market size and FDI inflows. For most studies, market size is measured by GDP or by sales of multinational firms in that country (Faeth, 2009). According to neoclassical models, firms increase their investment in response to sales. Survey studies have also supported the relationship between FDI and the sales of foreign subsidiaries or GDP (Moosa, 2002). However, the following reasons raise doubt about the significance of the relationships between market size and FDI. 1). The neoclassical theory of domestic investment makes assumption that are unrealistic; 2). Especially in developing countries, statistics on output, GDP and related measures, are subject to significant measurement errors; 3). FDI undertaken for the purposes of production of goods for consumption in the host country is likely to be influenced by the size of local markets in contrast to an export-oriented FDI. But in the real world, it is difficult to differentiate between different kinds of FDI for statistical reasons; 4). Considering that the market size hypothesis is built on neoclassical domestic investment theory, it should focus on investment that includes expenditure on plant and equipment only. However, statistics on FDI do not differentiate between expenditure on plant and equipment and other types of investment like financial assets and inventories; and 5). Having ascertained the high correlation between GDP and FDI, very little has been continued about the direction of causality (Moosa, 2002; Jonathan and Colin, 2006; Dunning, 1998).

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### **3.3.1 Location Hypothesis**

The growth of FDI has given rise to a substantial literature examining the location decisions/choices of firms establishing internationally. The choice is influenced by factors either external or internal to the firm (Kalyvas and Webster, 2011; Jean, et al, 2011). The location hypothesis assumes that FDI exists due to the international immobility of some factors of production like labour and natural resources. For instance, the location advantage of low wages is seen as an important determinant of FDI. This could arguably be the reason why countries like India and China attract labour-intensive production such as clothing and footwear from countries with high wage levels (Nagesh, 1994; Lei and Chen, 2011; Demirbag et al, 2007). The cheap labour in Vietnam has been exploited in producing goods not only sold in Vietnam but also to her Pacific Rim neighbours (Watson and Head, 2007). The Overseas Development Institute (ODI) based on empirical research, supports the view that relative labour cost is statistically significant, especially for FDI in labour-intensive industries and for export-oriented subsidiaries (Demirhan and Masca, 2008). However, high wages might be indicative of high quality of labour, thus rendering the relationship between low wages and FDI invalid. This is evident also because sectors such as banking and finance and activities involving R&D are not moved to countries where people engaged with the sectors earn low wages. It is worth noting that wage rates alone might not be the most important variable in the determination of FDI as differences in cross-country labour productivity could be a significant factor (Moosa, 2002). Location advantages are also applied to other factors of production and not just low wages. A firm may engage in FDI by building factories in a country with abundance of natural resources. A factory could be located near a limestone mine in the host country if it is a vital material in the production process. All these explain why firms engage in FDI regardless of the risks associated with organising manufacturing operations abroad (Moosa, 2002; Hood and Young, 1990).

Also, theoretical location preferences for foreign direct investment do not depend solely on production but rather on the objectives for the investment, plus whether it is a new or sequential project (Dunning, 1998). Incentives used to attract inbound MNE activity for natural-resource seeking, market seeking, efficiency seeking, and asset seeking investments differ (Chung and Alcacer, 2002; Nunnenkamp, 2002; Wadhwa and Sudhakara, 2011). For instance, export oriented FDI is in all likelihood less influenced by the size of local markets than is import-substituting FDI. There have been changes over the years in the locational preferences of firms making more of the traditional forms of FDI and there are also changes in attitudes of recipient countries to these investments. Perceptions of MNEs toward the location-specific assets that add significance to the competitive advantages they are exporting through FDI change due to the fact that their downstream activities are becoming more knowledge intensive. Surveys have shown that MNEs are increasingly seeking locations that offer the best economic and institutional facilities in order to fully maximize the firms' competencies (Dunning, 1998). Wheeler and Mody (1992) in their study of location patterns of US MNEs showed that infrastructure quality, degree of industrialization and existing levels of FDI are of great benefit in terms of statistical significance and impact on investment. However, it is also shown that while the location and ownership advantages are necessary for FDI, they are insufficient to maximize the full rents of FDI. The O and L of Dunning should be complemented by internalization in order to take full advantage of such conditions.

A summary of the findings by Dunning (1998) on the variables influencing the location of value added activities by MNEs is in table 9. The findings could be arranged into: Resource Seeking, Market Seeking, Efficiency Seeking and Strategic Asset Seeking. However, the first three seem more applicable for multinationals making decisions to expand abroad.

**Table 9**                      **Some Variables Influencing the Location of FDI**

<b>Resource Seeking</b>	<ol style="list-style-type: none"> <li>1. Availability of quality natural resources.</li> <li>2. Physical Infrastructure to enable resources to be exploited and subsequent exportation.</li> <li>3. Government restrictions on FDI, capital and dividend remittances.</li> <li>4. Investment incentives such as tax holidays.</li> <li>5. Availability of host partners to jointly promote knowledge.</li> </ol>
<b>Market seeking</b>	<ol style="list-style-type: none"> <li>1. Mainly domestic and regional markets. Large and growing domestic markets.</li> <li>2. Real Wage Costs.</li> <li>3. Regulations, tariffs and non-tariff trade barriers.</li> <li>4. Presence and competitiveness of related firms.</li> </ol>
<b>Efficiency Seeking</b>	<ol style="list-style-type: none"> <li>1. Majorly production cost related such as, labour and materials.</li> <li>2. No restrictions towards trade in intermediate and final products.</li> <li>3. Presence of agglomerative economies such as, export processing zones and free trade.</li> <li>4. Investment incentives such as, grants and subsidised land.</li> <li>5. Improved role of governments in better educational and training areas to help restructure economic activity.</li> </ol>
<b>Strategic Asset Seeking</b>	<ol style="list-style-type: none"> <li>1. Availability of knowledge related assets that favour ownership specific advantages of investing firms.</li> <li>2. Opportunities offered for exchange of localised tacit knowledge and interactive learning.</li> <li>3. The price and availability of “synergistic” assets to foreign investors.</li> </ol>

*Source: Dunning (1998), page 53*

### **3.3.1.1 Resource Seeking**

The availability of natural resources in host countries motivates resource seeking FDI and traditionally this is seen as the most important host country determinant of FDI (Nunnenkamp, 2002; Kudina and Jakubiak, 2008). This means that the resource asset seeking FDI firm is interested in securing and exploiting natural resources especially raw materials and physical infrastructure, such as telecommunication, power and transport network (Wadhwa and Sudhakara, 2011; Sauvant, 2008; Kinoshita and Campos, 2002). Alternatively, this could be in a host country for the purposes of minimising cost through acquiring resources that are expensive, low standard/quality, immobile or not available in the home market (Kalyvas and Webster, 2011; Brouthers et al, 2008; Franco et al, 2010).

FDI activities in developing countries have been determined mainly by this type of FDI especially when the country is rich in natural resources (Kalyvas and Webster, 2011). Nevertheless, on a broader scale, this type of FDI has decreased considerably because natural resources account for a decreasing share of world output and are no longer the favoured mode of acquiring natural resources such as oil and minerals (Nunnenkamp, 2002). FDI took precedence over other forms of international business in resource rich countries because they lacked the huge capital needed for resource extraction or were devoid of the necessary skills/know-how. Joint ventures, non-equity arrangements with foreign investors and arm's length trade relations are gradually not common when host countries possess the required capital and technical skills, thus giving rise to competitive enterprises (Kudina and Jakubiak, 2008; Nunnenkamp, 2002). However, as argued by Seyoum (2011) the availability of natural resources, skilled workforce and quality physical infrastructure are not enough to determine FDI inflows solely but rather informal and formal institutions also play key determinant roles. Unlike market seeking, resource seeking FDI serves both home and host country markets (Kinoshita and Campos, 2002).

### **3.3.1.2 Market Seeking FDI**

This involves investing in a host country for the purposes of serving the local market directly, with local production and distribution. That is, the objective of the market seeking FDI is a way of penetrating markets outside the home country and at the cost of exporting (Brouthers et al, 2008; Wadhwa and Sudhakara, 2011; Franco et al, 2010). It shares the advantageous opportunities presented by market size and per capita income, market growth, structure of domestic market and consumer preferences in the host country (Kudina and Jakubiak, 2008; Sauvant, 2008).

Also, market seeking FDI is motivated by local/regional markets. The idea behind investing in a host country can be to avoid regulations, tariffs or other barriers or to save operational costs. One example is, Japanese FDI in automobiles in the US during the 1980s (Sauvant, 2008; Kinoshita and Campos, 2002; Kudina and Jakubiak, 2008). This type of investment is known as “tariff jumping investment” (Kalyvas and Webster, 2011). However, besides the trade restrictions and market size, firms may engage in market seeking investment once their main suppliers, competitors and customers have set up foreign producing facilities. Thus, they follow them abroad to maintain and strengthen their market share, develop or explore new markets or retain their businesses (Franco et al, 2010).

### **3.3.1.3 Efficiency Seeking FDI**

Known also as “off shoring”, this is encouraged by creating new sources of competitiveness for firms and favours entry into areas where costs of production are lower. Generally, it means that lower labour costs can be considered a locational advantage for attracting foreign investors. One example is, a credit card or mobile company establishing call centres in India to serve customers in the UK or US (Wadhwa and Sudhakara, 2011;

Kalyvas and Webster, 2011). The efficiency seeking FDI is mainly undertaken by manufacturing, distribution and service multinationals from countries with high labour costs (Sauvant, 2008) that establish operations in countries with lower real labour costs to supply labour intensive intermediate or final products. However, in order to attract such investments, host countries have enacted policies towards free trade or export processing zones (Kudina and Jakubiak, 2008).

#### **3.3.1.4 Strategic Asset Seeking**

This type of investment is driven by the desire to advance global or regional strategies into foreign networks of created assets like technology, organisational ability and markets. That is, firms become trans-nationalised for the purpose of creating, sustaining or maintaining competitive positions (Wadhwa and Sudhakara, 2011). This is usually achieved by acquiring partly or wholly the proprietary assets of another country and integrating them in their subsidiary network (Sauvant, 2008; Kalyvas and Webster, 2011).

#### **3.3.2 Eclectic Theory**

The OLI paradigm remains a powerful and strong framework for examining contextual specific theories of foreign direct investment (Dunning, 2001). Dunning (1979) developed the theory by integrating hypotheses (ownership, internalisation and location). The theory gives credence to existing ideas and provides the basic outline for FDI theory. His combination (eclectic paradigm) was derived by linking competitive theories such as the structural market failure hypothesis of Hymer and Caves; the internalisation approach of Buckley and Casson, as well as a location dimension to the theory (Vintila, 2010; Jonathan and Colin, 2006; Moosa, 2002). Based on the eclectic theory, these three conditions must be met before a firm engages in FDI. First, the firm must have an ownership specific asset, thereby giving it an advantage over other firms and is exclusive to the firm. Second, the firm

must internalise these assets within the firm instead of contracting, selling, leasing or licensing. Third, there must be an advantage in setting up production abroad rather than relying on exports (Dunning, 2001; Brewer, 1993; Masahiko, 1991; Agarwal and Ramaswami, 1992; Wadhwa and Sudhakara, 2011). Without these conditions, the foreign markets are best served exclusively through exports (Lim, 2001).

The ownership specific advantages are assets exclusively possessed by firms, which can be exploited to earn economic rents. These might include the quality of management, access to factor inputs, access to product markets and technological capabilities (defined to contain all forms of innovation activities, economics of learning and greater access to financial capital, firm size, and multinational experience), patents and trademarks (Dunning, 2001; Faeth, 2009; Vintila, 2010; Moosa, 2002; Agarwal and Ramaswami, 1992; Moon and Roehl, 2001). Location advantages include assets that a country possesses which favour production and exporting. They include lower transportation costs, production and communication costs, stable political and legal systems, natural resources, infrastructures and access to protected market and friendly business environments (Faeth, 2009; Jonathan and Colin, 2006). Internalisation specific advantages arise when firms decide to produce internally and this could be seen as the way firms maximise the gains from their ownership advantages to avoid or overcome market imperfections. Thus, the above paradigm suggests the reasons why firms invest abroad, what the preconditions are, where they invest and also the reason why they select FDI out of the many possible forms of foreign market entry (Dunning, 2001).

Irrespective of the importance of the OLI paradigm in understanding FDI, the theory has been criticised for ignoring another aspect of FDI theory which suggests that FDI is a dynamic process which sparks off a response between firms in different countries (Jonathan



and Colin, 2006). A later study by Dunning (1988) showed that the Eclectic advantages differed depending on whether countries were developed or developing and the categories of firms in terms of large, small, processing, assembling, innovatory, mature etc. Also, as suggested by the theory, benefits generated from ownership, internalisation and location are susceptible to change over time (Moosa, 2002).

### **3.3.3 Tax Policies**

FDI activities and the means by which FDI is financed can be affected by domestic and foreign tax policies (Demirhan and Masca, 2008). A theoretical assumption is that higher taxes would discourage both foreign and domestic investments however some empirical findings have shown otherwise. The reason behind this somewhat strange relationship was analysed by Scholes and Wolfson (1990). They argued that total taxes paid by foreign firms do not always increase when taxes are raised in the host country. Tax reform may simply reallocate the respective amounts paid to the home and host governments.

### **3.3.4 Trade Barriers**

FDI is seen as a means of avoiding trade barriers such as tariffs and non-tariffs since it could be an alternative to trade or exporting. Some host countries have encouraged FDI by deliberately employing the use of tariffs, quotas and local standards. Therefore, this suggests that open economies with little restrictions on international trade receive fewer FDI inflows. Least developed countries have designed import substitution strategies to encourage firms to establish local manufacturing facilities (Moosa, 2002; Hood and Young, 1990; Nunnenkamp, 2002). Increased FDI in countries such as Mexico and Spain is a way for multinationals to avoid trade barriers imposed by NAFTA and EU. Honda's production facilities in Ohio is seen as a way to avoid the tariffs and quotas imposed by the US government. However, exporting by US firms to Canada might be more feasible considering the proximity between these countries. However, the tariffs in Canada have propelled US

direct investment into it (Hood and Young, 1990; Moosa, 2002). Blonigen and Feenstra (1996) argued that threat of protectionism by the host government can also induce FDI.

On the other hand, trade openness can have a huge impact on FDI although this could depend on the type of investment or a number of other factors. First, if an investment is aimed at serving local market and consumers, it is much more inclined to establish subsidiaries in the host country if there are difficulties importing their products into the country. Second, firms aimed at export-oriented investments are much more inclined to invest in countries with high degree of openness due to imperfections associated with protectionism (Demirhan and Masca, 2008). Third, as argued by Sanjaya and Narula, (2004) increased trade openness if not complimented with strong local capabilities would only trigger a weak response of FDI activities.

### **3.4 OTHER THEORIES**

The internal financing hypothesis and the currency area hypothesis will be considered under this heading.

#### **3.4.1 Internal Financing Hypothesis**

This hypothesis suggests that multinationals invest a reasonable amount of their resources to their initial direct investment while profits obtained from activities in the host country are reinvested to finance subsequent expansions. The hypothesis is much more applicable for FDI in developing countries as supported by Froot and Stein (1991) because of the information imperfections in the capital markets thus making external financing very expensive (Moosa, 2002). This is also because restricted movements in funds and the undeveloped state and inefficiency of financial markets in developing countries. Hartman (1985) argued that since repatriated earnings are subject to tax while subsidiary earnings are

not in the home country, firms benefit by financing FDI out of foreign earnings to the greatest possible extent.

### **3.4.2 The Currency Area Hypothesis and the Effects of the Exchange Rate**

The hypothesis was developed by Aliber (1970) based on the idea of capital market relationships, foreign exchange risk and the market's choice for holding assets denominated in strong currency. He suggests that firms are more likely to invest abroad when they belong to a country with a strong currency, whereas firms that belong to countries with weak currency are discouraged from investing abroad (Faeth, 2009; Moosa, 2002; Hood and Young, 1990). Also, firms could borrow money in countries with higher currency fluctuations at a lower interest rate than host country firms as a result of their lower risk structure. That is, foreign firms capitalise on the same pattern of expected earnings at a higher rate than domestic firms, which gives them a reason to invest abroad. In the international capital markets, the premium charged on loans reflects the risks of possible depreciation of the currency concerned (Hood and Young; 2002; Faeth, 2009).

Validity of the hypothesis could lead to the conclusion that FDI outflows are associated with currency overvaluation and FDI inflows being associated with currency undervaluation. The model could explain the rapid growth of US FDI in the 1950s and 1960s because of the strength of the dollar in that period and also the presence of a currency premium at that time. Froot and Stein (1991) used the theory to explain the increase of FDI inflows to the US due to the depreciation in the US dollar that started in the early to mid 1980s. Since FDI is seen as an alternative to exports, the exchange rate becomes vital. Multinationals in the home country will find it difficult to export when currency appreciates because products become less competitive abroad. In order for firms to hedge economic exposure to foreign exchange risk due to a persistent appreciation in the domestic currency, they engage in FDI. However, the exchange rate must be the real exchange rate as it is that

which determines economic exposure and competitiveness. Theoretically, changes in exchange rates have an impact on FDI. Foreigners are attracted to assets abroad if their currency appreciates while foreign assets are less attractive for residents in the home country where the currency has depreciated. This prompts an increase in FDI inflows in the home country (Hood and Young, 1990; Moosa, 2002).

Lizondo (1991) argued that the hypothesis has failed to address cross-investment between currency areas since such areas share the same currency, or simultaneous FDI between countries with different currencies. Agarwal (1980) also warned of the risk generated in the misconception of assuming a relationship between FDI and changes in the exchange rate with the currency area hypothesis because this emphasises overvaluation and undervaluation not on appreciation or depreciation. Also, the model cannot explain the widespread cross investment between European and US firms, the investment of US firms within the dollar area or multinational investment in less developed countries where capital markets are possibly non-existent and the exchange rate highly regulated. This argument could also be worthless because in a world with mobile capital, risk-adjusted expected returns on all international assets will be equalised through the rise in prices of domestic assets as a result of depreciation in domestic currency. Equally as argued by researchers, even in a world of unified currency, FDI will still exist though in terms of economics of location (investment between different custom areas) (Hood and Young, 1990; Faeth, 2009; Moosa, 2002).

### **3.5 THEORIES BASED ON OTHER FACTORS/INFLUENCES**

These factors: political risk and country risk, tax policy, trade barriers, government regulations can also be used to explain FDI.

### **3.5.1 Political and Country Risk**

FDI is often discouraged by lack of political stability and corruption. The political instability might be a product of unexpected modifications of the fiscal and legal frameworks in the host country, thus making the investment climate and economic outcome for investment very unpredictable. For instance, the cash flow received by a parent multinational will be affected adversely if the host government imposes restrictions on capital repatriation. Also, policies relating to acquisitions and local participation in manufacturing operations might also influence FDI location decisions (Agarwal and Ramaswami, 1992; Moosa, 2002; Demirbag et al, 2007; Hood and Young, 1990; Sethi, et al, 2002). In some cases, country risk is used as a proxy for political instability. However, the way this ranks as an FDI determinant remains rather obscure. According to Marr (1997) investments into a host country with plenty of natural resources need no further incentives. Such examples were seen in countries such as Angola and Nigeria where compensation for the political instability comes in the form of very high returns in the oil and extractive industries. It argued that as long as the foreign firms are fully confident of gaining profitable investments without extreme risk to their capital and personnel, they will continue to invest.

### **3.5.2 Government Regulations**

The decision for firms to invest in a foreign territory is sometimes far more complex than just the choice between whether to invest or not because different stages of the investment decision process are affected by government regulation (Faeth, 2009; Benito and Gripsrud, 1992). The majority of governments implement policies targeted at both encouraging and discouraging inward FDI by offering incentives on one hand and disincentives on the other. Such incentives might be in the form of financial and tax advantages, government promotional activities, and administrative support for foreign investors, while disincentives are in the form of restrictions of firms' activities. This acts as a slow or outright prohibition

of multinationals investing in certain regions or sectors (Moosa, 2002; Lim, 2002). Host government are more inclined to subsidise inbound FDI products that export much of their output and restrict FDI projects that import much of their inputs (Brewer, 1993). However, it is arguably dangerous to state that enticing multinationals through incentives is an inefficient competitive bidding among host countries since they would have made the investment anyway. It is also argued that factors which attract FDI are more to do with the host country's political, social and economic conditions than incentives. Government in some cases offer incentives for FDI while imposing disincentives for other kinds. For instance, governments are seen to compete in attracting inward Greenfield investment but take a restrictive approach towards acquisitions (Moosa, 2002).

### **3.6 REVIEW OF SOME EMPIRICAL STUDIES ON THE DETERMINANTS OF FDI**

Blonigen (2005) states that there is a plethora of studies on the determinants of FDI, however empirical research on FDI is still in its infancy and a significant number of FDI hypotheses are under researched and this is most pronounced for studies on developing countries. However, for the purpose of this study, the review of the applied literature focuses on developing countries plus a few on transition economies, as this is the focus of the thesis. Many papers suggest that firms seeking to exploit their own firm-specific advantage are more likely to invest across borders, however due to difficulties collecting firm-level data most of these are country level studies (Lei and Chen, 2011). The topics specific to developing countries tend to concentrate on the impact of corruption, rate of return, trade openness and natural resources with mixed findings on their relationship with FDI. Most emphasis has been on market size, education and economic growth. In addition,

the empirical studies would be structured in accordance with classified theories of FDI discussed in this chapter.

### **3.6.1 Theories Assuming a Perfect Market**

Ivohasina and Hamori (2005) investigated the determinants of FDI in developing countries over the period 1980-2001, and amongst other findings, return on capital was positively related to FDI. This relationship was supported by the fact that countries in their sample have scarce available finance and the lowest capital-labour ratio, and hence the highest return on capital. On the other hand, investigations from Asiedu (2002) on the determinants of FDI in developing countries produced mixed findings. Whilst return on capital was positively significant to FDI in other developing countries, it was insignificantly related to FDI in SSA countries. A plausible explanation was that since SSA countries are perceived as being inherently risky, the return on capital when adjusted for risk may be too low to induce investments.

Mottaleb and Kalirajan (2010) used a sample of 68 developing countries for the period 2005-2007 to investigate the effect of host economy size on FDI. They ascribed the findings of a positive relationship of market size to FDI to the economic growth potential in the countries they investigated. In a sample of 22 African countries over the period 1984-2000, Asiedu (2006) found that market size was positively related to FDI. The study attributed this to the effects of regionalism in these countries, which helps to expand the size of their markets. Mughal and Akram (2011) investigated the effects of market size on FDI in Pakistan over the period, 1984-2008 and found a positive relationship. They justified this by the fact that FDI in Pakistan are most in market seeking. Onyeiwu and Shresthe (2004) examined the determinants of FDI in 29 African countries for the period 1975-1999 and found market size to be one of the determinants. This positive relationship between market size and FDI was supported by the fact that countries in their sample size in the latter years

of their examination demonstrated economic growth prospects. In contrast, Loree and Guisinger (1995) argued that the insignificant relationship between market size and FDI is because FDI inflows in their sample could not be segmented by market orientation.

### **3.6.2 Theories Assuming Imperfect Market**

Aleksynska and Havrylchyk (2013) investigated the location choices of investors from emerging economies for the period 1996-2007. One of their findings revealed that natural resources influenced the location decisions of FDI. This was attributed to the fact that increased demand and soaring prices of oil have motivated emerging economies to intensify efforts towards acquiring oil assets and investing in mining. Onyeiwu and Shresthe (2004) attributed the positive significance of natural resources to FDI to the fact that most of the countries in their sample are natural resources rich. Their sample focused on African countries and these recorded unprecedented growth in natural resource endowments, accounting for about around 70% of total FDI inflows into their region. Similarly, Asiedu (2006) found that natural resources as measured by share of fuel and mineral in total exports had a positive relationship with FDI. However, according to Okpara (2012) the negative relationship between natural resources and FDI in Nigeria indicate that the natural resource endowment in their study is artificially insufficient or not been explored to the desired capacity to stimulate foreign investments.

Khadaroo and Seetanah (2009) examined the important factors that attracted foreign investors into 29 African countries for the period 1985-2004. They found that increases in the cost of labour deterred FDI and thus, attributed the relationship to FDI in those countries had been targeted at labour intensive production. Bellak et al, (2008) in a sample of emerging economies for the period 1995-2003 found that an increase in labour costs will deter FDI because FDI in their sample is labour cost driven. Ranjan and Agrawal (2011) investigated the determinants of FDI in BRIC countries during the period, 1975-2009 and



found amongst other things that a decrease in labour costs will increase FDI inflows. The relationship between labour costs and FDI was attributed to the fact that the high population of the BRIC countries provide them with low labour costs and that FDI into the BRIC countries are motivated by low labour cost destinations. Loree and Guisinger (1995) estimated the effects of policy and non-policy variables on the location of US direct investment abroad and one of the findings revealed an insignificant relationship between wages and outward FDI. This was due to the fact that data on outward FDI contain industries with both low-wage/low-skill and high-wage/high-skill labour.

Majeed and Ahmad (2008) investigated the determinants of FDI inflows in 23 developing countries and argued that the improved health conditions of workers following expenditures on health and mass elementary education are responsible for the positive relationship between human capital and FDI. Bhaumik and Dimova (2013) investigated the impact of human capital on FDI in developing countries from 2002-2006 and found that training had a greater impact on FDI compared to formal education. The reason for their findings was that training reduces inefficiency significantly when compared to formal education. Hussain and Kimuli (2012) stressed the importance of education in attracting FDI due to the fact that secondary school enrolment rate was positively related to FDI in their sample of 57 developing countries over a 10 year period (200-2009). Although no explanation was provided, Haile and Assefa (2006) found that illiteracy was negative and insignificantly related to FDI in Ethiopia over the period, 1974-2001. Shahmoradi and Baghbanyan (2011) employed a sample of 25 developing countries to analyse the determinants of FDI over the period 1990-2007. Amongst other findings, labour force had a positive relationship with FDI and this was attributed to the labour force in those countries being characterised as having the necessary skills and training to attract FDI.

Kinda (2010) on their investigation on a sample of 77 developing countries over the period 2000-2006 attributed the negative relationship between poor infrastructure and FDI to increased transaction costs incurred as well as operational difficulties for foreign firms in the host country. Fung et al, (2005) assessed the relative importance of different determinants of FDI into China from 1990-2002 and showed that the high quality of roads in China influenced FDI positively. Bellak et al, (2007) in their analysis on the determinants of FDI in Central and Eastern European countries from 1995-2004 showed that information and communication infrastructure had a positive and significant relationship with FDI.

Anyanwu (2012) investigated FDI determinants in 53 African countries and argued that the export oriented regimes pursued by the countries in their study have contributed to the positive relationship between trade openness and FDI. Liargovas and Skandalis (2012) examined the importance of trade openness in attracting FDI on a sample of 36 developing countries from 1990-2008. Based on their findings, they suggested that their data support the general notion that open economies are more likely to influence the advent of foreign capital. Cevis and Camurdan (2007) and Masuku and Dlamini (2009) investigated the economic determinants of FDI in 17 developing countries during the period 1989-2006 and locational determinants of FDI in Swaziland during the period 1980-2001 respectively. Both studies found a positive relationship between trade openness and FDI although no explanations were provided.

Chantasawat et al, (2008) examined whether MNEs moving into China have a negative effect on the extent of foreign firms moving into other developing countries in East Asia, Latin America and Eastern Europe. Their findings suggest that lower corporate taxes played a significant role in attracting investment inflows because lower corporate taxes mean larger profits for MNEs. San et al, (2012) investigated the relationship between US outward FDI and corporate tax rates in developing countries during the period 2000-2009. The findings

showed that US MNEs are negatively influenced by the level of corporate tax rates but the level of statutory corporate tax rate had no significant effect.

Ahn et al, (1998) argued that the poor exchange rate policies in the developing countries in their sample size were responsible for the negative relationship between inflation and FDI. Udoh and Egwaikhide (2008) examined the impact of inflation uncertainty on FDI in Nigeria from 1970-2005 and found this resulted in a negative relationship with FDI. They argued that the reason for this is the bad signal poor expansionary macroeconomic policy sends to foreign investors. However, Omankhanlen (2011) showed that inflation had a negative but insignificant relationship with FDI in Nigeria during the period 1980-2009, suggesting that inflation in Nigeria is inelastic to FDI. Niazi et al, (2011) found that inflation was negative and insignificantly related to FDI in Pakistan as a result of the high levels of inflation over the period of their study (2000-2010).

### **3.6.3 Other Theories**

Majeed and Ahmad (2008) examined the determinants of FDI in 23 developing countries for the period 1970-2004 and found that real lending rates was one of the positive and significant determinants of FDI. They attributed this to the fact that MNEs in their sample are financed from home countries and thus, any increase in host country's lending rate signals cost advantages for the MNEs. Mengistu and Adhikary (2011) investigated the determinants of FDI in 15 Asian economies for the period 1996-2007 and also found a positive relationship between lending rates and FDI.

Udomkerdmongkol et al, (2009) examined the effects of exchange rate in 16 emerging countries on US FDI over the period, 1990-2002. Their findings showed that exchange rate devaluation is positively associated with US FDI outflows and attributed this relationship to the fact that devaluation lowers the cost of investment in emerging countries for US foreign

investors. Abbott et al, (2012) in their sample of 80 developing countries over the period 1985-2004, found that fixed exchange rates significantly outperform floating exchanging rates in terms of attracting FDI inflows due to weaker fundamentals such as insufficient foreign exchange reserves. Nyarko et al, (2011) investigated the effect of exchange rate regime on FDI in Ghana over the period 1970-2008 and found an insignificant relationship. This was justified by the fact that the efforts by policy makers in Ghana to stabilise the exchange rate as tool for attracting FDI have been ineffective. Similarly, Ruiz and Pozo (2008) argued that the manipulation of the exchange rate by Latin American countries to attract FDI over the period 1994-2005 were not successful.

#### **3.6.4 Theories Based on Other Factors/Influences**

Deseatnicov and Akiba (2011) examined the role of political risks in Japanese outward FDI on a panel of 11 developing and 19 developed countries for the period 1995-2009. Their findings produced mixed results. Political risks in developing countries were negatively related to FDI and this they attributed to political instability being associated with unstable administration and unemployment. However, they found that political risks were positively related to FDI in developed countries. They ascribed this to the fact that although certain laws might increase the pressure on the social environment, Japanese investors might see it as a way of attaining “more disciplined” operational environments since these countries already possess high institutional quality. Li (2006) analysed the impact of political instability on a sample of 129 countries over the period 1976-1996. They found that unanticipated wars had a negative relationship on FDI, however anticipated wars and unanticipated terrorist attacks had no significant relationship with FDI. Azam and Khattak (2009) examined the effects of socio-political factors on FDI in Pakistan and found a negative but insignificant relationship between political instability and FDI. They argued that although the negative sign meant that political instability is a source of concern for

foreign investors, its frequent occurrence in Pakistan might be responsible for the insignificant relationship.

Habib and Zurawicki (2002) used a sample of 89 countries to analyse the relationship between corruption and FDI over the period 1996-1998. They argued that the operational inefficiencies that corruption generated accounted for the negative relationship between corruption and FDI. Al-Sadig (2009) in their study on the effects of corruption on FDI in 117 countries over the period 1984-2004 found that corruption had a negative impact on FDI. However, when institutional quality is controlled for, corruption becomes positive but insignificant. They argued that the results should not be interpreted that corruption does not have a negative relationship with FDI rather that having better institutional quality helps reduce the effects of corruption on FDI. Egger and Winner (2005) in their study of the relationship between corruption and FDI in 73 countries over the period 1995-1999 claimed that, corruption was beneficial in circumventing regulatory and administrative restrictions. This was because of the barriers to entry of new foreign investors in their sample. Similarly, Bellos and Subasat (2011) analysed the impact of corruption a sample of 15 transition countries over a 16 year period (1990-2005). Their analyses showed that corruption does not discourage FDI because in relatively less democratic developing countries, setting up a business or getting business contracts might require the payment of bribes.

Mkenda and Mkenda (2004) examined the key factors that account for FDI inflows on a sample of 31 African countries from 1982-1997. Their results showed that government expenditure had a negative relationship with FDI. They justified this finding by the fact that excessive government spending in Africa tends to be seen as an impediment to private investment and thus, crowd out private investment. Similarly, Biglaiser and DeRouen (2006) estimated the effects of political and economic variables on FDI in 15 Latin American countries from 1980-1996 and found a negative relationship between government

spending and FDI. They attributed this to fact that higher government spending crowds-out available local capital by reducing the competitiveness of foreign investments. Although no explanations were provided, Azam and Lukman (2010) and Sudarsono (2008) found insignificant relationships between government spending and FDI in their investigations on the determinants of FDI in a host of developing countries.

**Table 10 Summary of Some of the Empirical Studies on the Determinants of FDI**

Authors	Purpose/ Methodology	Findings
<b>Theories Assuming a Perfect Market</b>		
<i>Foreign Direct Investment, Rate of Return and Market size</i>		
Ivohasina and Hamori, 2005. An Empirical Analysis of FDI Competitiveness in Sub-Saharan Africa and Developing Countries. Economics Bulletin: 6(20)	The paper used panel cointegration test. Variables from 1980-2001 was examined by the panel root test to establish their relationship to FDI	The paper demonstrated that the relatively high rate of return (inverse of GDP per capita) on investment in SSA countries provided an incentive for FDI but had a negative statistical significance for the Asian countries.
Asiedu, 2002. On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different? World Development: 30(1)	The paper employed ordinary least square (OLS) on cross-country regressions for the period 1988-1997.	The results show that higher return on capital has no significant effect on FDI inflows in Sub Saharan African countries.
Mottaleb and Kalirajan, 2010. "Determinants of Foreign Direct Investment in Developing Countries: A Comparative Analysis". The Journal of Applied Economic Research: 4(4)	The study is based on data from 68 developing countries 2005-2007 (37 from Africa, 8 from Latin America and 23 from Asia). Its purpose is to capture the effect of host economy size on FDI inflows using GDP and GDP growth rate as market size proxies. The study used a cross country regression method.	The analysis showed a positive and statistically significant relationship between FDI inflows and GDP; FDI inflows and GDP growth rate.
Mughal and Akram, 2011. Does Market Size Affect FDI? The Case of Pakistan. Interdisciplinary Journal of Contemporary Research in Business: 2(9)	Their study is based on average data (1984-2008) from the Government of Pakistan Finance Bills and the World Bank Development Indicators. The autoregressive distributed lad approach (ARDL) was employed to estimate the relationship.	Their results showed that Market size (GDP) had a positive significant impact on FDI inflows. 1% increase in GDP suggests a 5.6percent rise in FDI inflows in the long run for Pakistan.
Asiedu, 2006. Foreign Direct Investment in Africa: The Role of Natural Resources, Market Size, Government Policy, Institutions and Political Instability. © United Nations University	The paper reviewed determinants of FDI in Africa (22 countries) from 1984-2000 using, a fixed-effects panel estimation.	The finding showed log (GDP) as a proxy for market size is positive and significant determinant of FDI inflows in the region.

Onyeiwu and Shresthe, 2004. Determinants of Foreign Direct Investment in Africa. Journal of Developing Societies: 20 (89)	This paper uses a panel regression to determine factors affecting FDI for 29 African countries for the period 1975-1999. It utilises a lag net of FDI as a percentage of GDP.	Using GDP growth rate as a proxy for market size, it suggests a positive and significant determinant of FDI inflows.
Edwards, 1990. Capital Flows, Foreign Direct Investment and Debt-Equity Swaps in developing Countries. NBER Working paper Series: No. 3475	The study employs a linear cross-country regression for the period 1971-1981.	The finding shows a negative and significant relationship between FDI inflows and Income Per capita as a proxy for market size.
Loree and Guisinger, 1995. Policy and Non-Policy Determinants of US equity Foreign Direct-Investment. Journal of International Business Studies:26(2)	They employed OLS regression for the two time periods (1977) and (1982) to estimate the effects of policy and non-policy variables on the location of new U S direct investment abroad.	Their findings showed GDP per capita (proxy for market size) being insignificant in 1982.

### Theories Assuming Imperfect Market

Authors	Purpose/ Methodology	Findings
<i>Foreign Direct Investment, Natural Resources, Labour Cost, Human Capital, Infrastructure, Trade Openness, Tax, and Inflation</i>		
Asiedu, 2006. Foreign Direct Investment in Africa: The Role of Natural Resources, Market Size, Government Policy, Institutions and Political Instability. © United Nations University	The paper reviewed determinants of FDI in Africa (22 countries) from 1984-2000 using, a fixed-effects panel estimation.	The findings indicated that natural resources (percentage share of fuel and minerals in exports) is highly significant and thus promote FDI in the region
Onyeiwu and Shresthe, 2004. Determinants of Foreign Direct Investment in Africa. Journal of Developing Societies: 20 (89)	This paper uses a panel regression to determine factors affecting FDI for 29 African countries for the period 1975-1999. It utilises a lag net of FDI as a percentage of GDP.	The analysis shows that natural resources (fuel exports as a percentage of total exports have a positive significant effect on FDI inflows.
Aleksynska and Havrylchyk, 2011. FDI from the South: The Role of Institutional Distance and Natural Resources. CEPII Working Paper (5)	The research uses the gravity equation to estimate investment behaviours for the period 1996-2007 using a data set for 60 developing and 22 developed economies.	Their findings support the hypothesis that availability of natural resources is an important determinant of FDI.
Okpara, 2012. An Error Correction Model Analysis of the Determinant of Foreign Direct Investment: Evidence from Nigeria. MPRA Paper No. 36676	The study uses Granger causality and then error correction model to determine the determinants of FDI inflow to Nigeria during the period 1970-2009	The study reveals that natural resources exert a negative and significant impact on FDI. In essence, inadequate natural resources reduce the inflow of FDI.
Khadaroo and Seetanah, 2009. The Role of Transport Infrastructure in Attracting FDI in Africa. Evidence from Africa Using GMM Estimates. Journal of Transport and Policy, 43(3)	The paper is based on a sample of African Countries for the period 1985-2004. It made use of dynamic panel data framework to establish the important the factors that are attractive to foreign investors.	The result showed the increases in labour cost will contribute negatively to FDI.
Bellak et al., 2008. Labour Costs and FDI Flows into Central and Eastern European Countries: A Survey of the Literature and	The paper uses a generalisation of the triple-indexed panel-gravity model to analyse determinants of FDI in central and	The analysis shows that high labour cost impedes FDI. An increase of 1 percent point in unit labour cost leads to a decrease

Empirical Evidence. Structural Change and Economic Dynamics: 19(1)	eastern European countries for the period 1995-2003.	in FDI inflows by 2.7 percent.
Agrawal and Ranjan, 2011. FDI Inflows Determinants in BRIC Countries: A Panel Data Analysis. International Business Research: 4(4)	They employed a random effect model on the panel data set which consisted of annual frequency data of 35 years ranging from 1975-2009 to identify determinants of FDI inflows in BRIC countries.	The findings indicated that 1 percent decrease in host countries' labour cost will lead to 0.5 percent increase in FDI inflows to the Bloc.
Loree and Guisinger, 1995. Policy and Non-Policy Determinants of US equity Foreign Direct-Investment. Journal of International Business Studies:26(2)	They employed OLS regression for the two time periods (1977) and (1982) to estimate the effects of policy and non-policy variables on the location of new U S direct investment abroad	The results showed wage rates to be insignificant for the two periods under review (1977 and 1982).
Botric and Skuflic, 2006. Main Determinants of Foreign Direct Investment in the Southeast European Countries. Transition Studies Review: 13(2)	The study analyses FDI determinants in the SEEC-7 for the period 1996-2002. It employs the GLS regression technique on pooled samples.	The findings show a positive relation of wage and FDI inflows
Majeed and Ahmad, 2008. Human Capital Development and FDI in Developing Countries. Journal of Economics Cooperation: 29(3)	The Study employed a fixed effect model to estimate the determinants of FDI inflows in 23 developing countries over the period 1970-2004.	Using health expenditures and illiteracy rates in host country as proxies for human capital, the results showed that health expenditures were positively significant to FDI but illiteracy rates were negatively insignificant
Bhaumik and Dimova, 2012. Does Human Capital Endowment of FDI Recipient Countries Really Matter? Evidence from Cross-Country Firm Level Data. William Davidson Institute Working Paper No. 1030	The paper used a stylised Cobb-Douglas Production Function for cross-country firm-level data for textiles and garments industries in developing to determine the impact of human capital on FDI.	The paper found that training reduces inefficiency significantly but formal education level of workers does not have a significant impact of this inefficiency. In essence, training has a greater impact on firm efficiency in developing countries than formal education of the workforce.
Akin and Vlad, 2011. The Relationship Between Education and Foreign Direct Investment: Testing the Inverse U Shape. European Journal of Economic and Political Studies: 4(1)	The research uses a time-series data from 1980-1999 with the application of GLS pooled cross-sectional time series fixed-effect to test the Zhang-Markusen (ZM) U-shaped theory relationship between human capital and foreign direct investment.	The research agrees with the U-shaped theory in that, rich countries with high human capital and poor countries with low human capital indicate an inverse correlation between FDI and human capital. However, human capital in the middle and upper middle income countries had a positive relationship with FDI.
Haile and Assefa, 2006. Determinants of Foreign Direct Investment in Ethiopia: A Time-Series Analysis. In: 4th international Conference on the Ethiopian Economy, 10-12 June, 2006. Addis Ababa, Ethiopia.	The empirical paper used a time series regression analysis to study the determinants of FDI in Ethiopia for the period 1974-2001.	The results show Illiteracy level as a proxy for human capital was negatively insignificant.



Shahmoradi et al., 2011. Determinants of Foreign Direct Investment in Developing Countries: A Panel Data Analysis. Asian Economic and Financial Review: 1(2)	Using panel fixed effect estimation, they analysed determining factors of FDI inflows for the period 1990-2007 with data from 25 developing countries.	Their results suggested that labour force had a positive significant effect on FDI inflows.
Mottaleb and Kalirajan, 2010. "Determinants of Foreign Direct Investment in Developing Countries: A Comparative Analysis". The Journal of Applied Economic Research: 4(4)	The study is based on data from 68 developing countries 2005-2007 (37 from Africa, 8 from Latin America and 23 from Asia). Its purpose is to capture the effect of host economy size on FDI inflows using GDP and GDP growth rate as market size proxies. The study used a cross country regression method.	The study found that total labour force was insignificant across the estimated functions explaining inflow of FDI to developing countries.
Hussain and Kimuli, 2012. Determinants of Foreign Direct Investment Flows to Developing Countries. SBP Research Bulletin: 8(1)	The paper is based on data from 57 developing countries for the period 2000-2009 and explored different variation in FDI using econometric panel fixed effects estimations.	Using secondary school enrolment rate as a proxy for availability of skilled labour force, the paper showed that a 1 percent increase in skilled labour force will increase FDI as a percent of GDP by 1.5 percent.
Castro et al., 2007. Infrastructure and Location of Foreign Direct Investment: A Regional Analysis. Journal of Economic Literature	The research empirically uses the Spatial Autoregressive (SAR) model and a model that introduces a Spatial Lag in the right hand side of the regression or Spatial Lag Model (SL) on a panel of 21 Argentine Provinces for the period 1990-2001 on the role of public infrastructure in determining FDI.	The Results show that a 10% increase in paved roads per capita augments FDI between 17% and 33% in the average host regional economy and extending the network of paved roads in neighbouring regions would increase FDI between 12% and 14%.
Fung et al., 2005. Hard or Soft? Institutional Reforms and Infrastructure Spending as Determinants of Foreign Direct Investments in China. Japanese Economic Review: 56(4)	The paper used panel regressions to econometrically assess the relative importance of different determinants of FDI inflow into China from the US, Japan, Hong Kong, Korea and Taiwan for the period 1990-2002	The analysis from the panel regression showed strong evidence that the high quality roadways have a significantly positive influence on direct investment inflow in China from all FDI sources.
Bellak et al., 2007. Infrastructure Endowment and Corporate Income Taxes as Determinants of Foreign Direct Investment in Central and Eastern European Countries. Licos Discussion Paper	Their analysis is based on a panel econometric analysis using an augmented gravity model setting to ascertain the determinants of FDI in Central and Eastern European Countries for the period 1995-2004	The analysis indicated that infrastructure is a relevant location determinant. Also, among the various types of infrastructure, information and communication infrastructure is more important than transport infrastructure and electricity generation.
Khadaroo and Seetanah, 2009. The Role of Transport Infrastructure in FDI: Evidence from Africa Using GMM. Journal of Transport Economics and Policy, 43(3)	The paper analyses a study of 33 Sub-Saharan African countries for the period 1984-2002 using both static and dynamic data approach to determine the role of infrastructure availability in attracting FDI into the region.	Using paved roads per square kilometre of area and telephone lines per 1000 people as proxies for infrastructure, the results show they are important elements in attracting FDI inflows into the region.
Anyanwu, 2012. Why Does Foreign Direct Investment Go Where it Goes? New Evidence From African Countries. Annals of Economics and Finance: 13(2)	The research explores the reasons FDI move into 53 African countries using annual data from 1996 to 2008. The pooled OLS and feasible generalised least squares (FGLS) were econometric techniques used	The analysis suggests that openness measured as total trade (% of GDP) is positively significant to FDI inflows.

	for the analysis.	
Masuku and Dlamini, 2009. Determinants of Foreign Direct Investment Inflows in Swaziland. <i>Journal of Development and Agricultural Economics</i> : 1(5)	The study examines the locational determinants of FDI inflows in Swaziland for the period 1980-2001 using the cointegration and error correction model (ECM).	The results reveal that openness positively influences FDI. A 10% increase in openness leads to a 1.33% increase in FDI flows.
Liargovas and Skandalis, 2012. Foreign Direct Investment and Trade Openness: The Case of Developing Economies. <i>Social Indicators Research</i> : 106(2)	The paper examined the importance of 8 different indicators of trade openness in attracting foreign direct investment inflows to 36 developing economies for the period 1990-2008 using panel regression analysis.	The result showed that the variable of interest, trade openness, is positive in 7 out of the 8 regressions and significant in 5 of them.
Cevis and Camurdan, 2007. The Economic Determinants of Foreign Investment in Developing Countries and Transition Economies. <i>The Pakistan Development Review</i> : 46(3)	The study investigated the economic determinants of FDI to developing countries and transition economies for the period 1989-2006 using panel data analysis.	The results of the analysis showed that the coefficient of trade openness positively significant at 5 percent significance level.
Chantasasawat et al., 2008. Multinational Enterprises in China, East Asia, Latin America and Eastern Europe: Moving Out or Moving In? <i>Journal of Chinese Economics and Foreign Trade Studies</i> : 1(2)	The paper employs a panel regression simultaneous equation model to estimate the impact of China on the inward FDI of various Asian, Latin American and Eastern European Economies.	The findings show that lower corporate taxes play a significant role in attracting investment inflows.
San et al., 2012, Corporate Tax and Foreign Direct Investment in Developing Countries. <i>International Journal of Business Management and Economic Research</i> : 3(1)	The research uses data on US multinational enterprises (MNEs) outward FDI for the period 2000-2009 to investigate the relationship between corporate tax rate and FDI in developing countries, using a multiple regression model.	The analysis shows that US MNEs are negatively influenced by the level of corporate tax rates in host developing countries but the level of statutory corporate tax rates has no significant effect on FDI location decisions of US MNEs in host developed countries.
Oman Khan, 2011. The Effect of Exchange Rate and Inflation on Foreign Direct Investment and Its Relationship with Economic Growth in Nigeria. <i>Fascicle I. Economics and Applied Informatics</i> : 17(1)	The paper employs a linear regression analysis to determine the determinants of FDI inflows into Nigeria for a thirty year period (1980-2009).	The paper shows no significant effect of inflation on FDI
Udoh and Egwaikhide, 2008. Exchange Rate Volatility, Inflation Uncertainty and Foreign Direct Investment in Nigeria. <i>Botswana Journal of Economics</i> : 5(7)	Using data for the period 1970-2005, exchange rate volatility and inflation uncertainty were estimated by GARCH model on their effects on FDI inflows in Nigeria.	Their results showed that inflation uncertainty exerted a significant negative effect on foreign direct investment during the period under review.
Ahn, 1998. The Effects of Inflation and Exchange rate Policies on Direct Investment to Developing Countries. <i>International Economic Journal</i> : 12(1)	They used a panel data approach enabled them combine time series (1970-1981) and cross section (23 developing countries) data to study the effects of inflation and exchange rate policy on direct investment flows.	Their analysis revealed that inflation did have a significant negative effect on capital inflows.
Niazi et al., 2011. Does an Inflation and Growth of a Country affect its Foreign	The study used a multiple regression model to test the relationship between FDI,	The study showed that inflation has a negative but insignificant relation with

Direct Investment? Journal of Management, Economics and Finance: 1(1)	Inflation and Economic Growth in Pakistan for the period 2000-2010.	foreign direct investment.
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## Other Theories

Authors	Purpose/ Methodology	Findings
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### *Foreign Direct Investment, Lending Rates, and Exchange Rates*

Majeed and Ahmad, 2008. Human Capital Development and FDI in Developing Countries. Journal of Economics Cooperation: 29(3)	The Study employed a fixed effect model to estimate the determinants of FDI inflows in 23 developing countries over the period 1970-2004.	The study found real lending rate to be positively significant to FDI
Mengistu and Adhikary, 2011. Does Good Governance Matter for FDI Inflows? Evidence From Asia Economies. Asia Pacific Business Review: 17(3)	They examined the effects of good governance on FDI inflows in 15 Asian Economies for the period 1996-2007 employing a fixed effect model for the panel data (feasible general least square, FGLS and Prais-Winsten Panel Estimation	The results reveal a positive and significant relationship between lending rates and FDI inflows.
Abbott et al., 2012. Exchange Rate Regimes and Foreign Direct Investment Flows to Developing Countries. Review of International Economics: 20(1)	The study empirically uses system generalised methods of moments estimation on a panel of 70 developing countries for the period 1985-2004 to determine the effect of exchange rate regimes on FDI flows	The findings of the study reveal that both fixed and intermediate de facto exchange rate regimes significantly outperform the de facto floating option in attracting FDI flows.
Nyarko et al., 2011. Effects of Exchange Rate regimes on FDI Inflows in Ghana. International Journal of Economics and Finance: 3(3)	The research paper investigated the effect of exchange rate regime of FDI inflows in Ghana over a 39 year period (1970-2008). It employed the ordinary least squares and the cointegration technique.	The research indicated that exchange rate regime has not recognisable effect on FDI. Thus, efforts by policy makers in Ghana at stabilising the exchange rate may not necessarily translate into significant FDI inflows.
Udomkerdmongkol et al., 2008. Exchange Rates and Outward Foreign Direct Investment: US FDI in Emerging Economies. United Nations University Working Paper No. 2008/102	The paper tests the effects of exchange rates, exchange rate expectations and exchange rate volatility on US FDI to 16 emerging market countries (8 in Latin America, 5 in Asia, 3 African) for the period 1990-2002	The results show evidence that the value of the local currency is associated with FDI inflows. That is, currency devaluation increases FDI inflows.
Ruiz and Pozo, 2008. Exchange Rates and US. Direct Investment into Latin America. The Journal of International Trade and Economic Development: 17(3)	The study investigated the impact of exchange rates and exchange rate uncertainty on US FDI into Latin America using fixed effects model for the period 1994-2005	The study indicated that discrete variations in real exchange rate do not impact on FDI inflows. Hence, based on their analysis, the countries under study need not manipulate the exchange rate for the purpose of promoting FDI inflows.

### Theories Based on Other Factors/Influences

Authors	Purpose/ Methodology	Findings
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**Foreign Direct Investment, Political Instability, Corruption, Government Policies**

Haksoo, 2010. Political Stability and Foreign Direct Investment. International Journal of Economics and Finance: 2(3)	Using different empirical techniques (Pooled OLS, GLS and Random Effects Estimation) on a panel data, the paper examined relationship between foreign direct investment and political stability in 28 countries for the period 1990-2002.	The results showed that politically stable countries produce capital flows to invest in politically unstable countries.
Deseatnicov and Akiba, 2011. Role of Political Risks in Japanese Outward FDI Activities Within Developed and Developing Countries: Are There Any Differences? In: International Conference On Applied Economics-ICOAE 2011	The research empirically studies the role of political risks in the Japanese outward FDI activities using a Generalised Method of Moments (GMM) on a panel data of 19 developed and 11 developing countries for the period 1995-2009.	The results show that political risk is negatively significant for investment by Japanese MNCs in developing countries but positively significant for developed countries. Thus, suggesting that Japanese MNCs tend to invest in the more unstable countries.
Li, 2006, Political Violence and Foreign Direct Investment. Regional Economic Integration Research in Global Strategic Management: Vol. 12	The empirical study uses pooled time-series cross-sectional (TSCS) on 129 countries for the period 1976-1996 to analyse the effect of political instability on FDI flows.	The study indicates that unanticipated interstate war decreases the chances of a country been chosen as an investment location but not the size of the investment. Anticipated interstate war and anticipated terrorist attacks do not influence ex post investment choices or magnitude but unanticipated terrorist attacks have insignificant effect on investment choices.
Azam and Khattak, 2009. Social and Political Factors Effects on Foreign Direct Investment in Pakistan. Gomal University Journal of Research: 25(1)	Their paper used a simple semi log linear regression model and the method of Least Square (OLS) to estimate the socio-political factors effects on FDI in Pakistan for the period 1971-2005.	The analysis showed that political instability was insignificant.
Al-Sadig 2009. The Effects of Corruption on FDI Inflows. Cato Journal: 29(2)	The study investigated the effects of corruption on FDI inflows using cross section regressions and panel effects estimations on a sample of 117 countries over the period 1984-2004	The empirical evidence showed a one-point increase in the corruption level leads to a reduction in per capita FDI inflows by about 11 percent. Though, with the panel data methods, the negative impacts of corruption disappeared when the host country's institutional quality was controlled for.
Habib and Zurawicki, 2002. Corruption and Foreign Direct Investment. Journal of International Business Studies: 33(2)	Using the OLS regression model and the PROBIT model, the study analyses the effects of Corruption on FDI for 89 countries for the period 1996-1998.	The study shows a negative effect of corruption on FDI. Also, a negative effect due to difference in corruption levels between the home and host countries. That is, foreign firms are unwilling to deal with the planning and operational pitfalls related to an environment with a different corruption level.
Bellos and Subasat, 2011. Corruption and Foreign Direct Investment: A Panel Gravity Model Approach. Bulletin of Economic Research	The research uses a panel gravity model approach to analyse the relationship between corruption and foreign direct investment in 15 transition countries for a 16 year period (1990-2005)	The results show that corruption does not discourage foreign direct investment.
Egger and Winner, 2005. Evidence on Corruption as an Incentive for Foreign Direct Investment. European Journal of	Using fixed effect estimation, the study assesses the relationship between corruption and FDI on a sample of 73 developed and developing countries for the	The analysis shows that corruption is a positive stimulus for FDI thus, confirming the belief that corruption can be beneficial in circumventing regulatory and

Political Economy: 21(4)	period 1995-1999	administrative restrictions.
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Azam and Lukman, 2010. Determinants of Foreign Direct Investment in India, Indonesia and Pakistan: A Quantitative Approach. Journal of Managerial Sciences: 4(1)	The study employed a linear regression to analyse the various factors that influence FDI inflows into Pakistan, India and Indonesia for the period 1970-2005.	The study showed that government consumption was statistically insignificant to FDI inflows.
Mkenda and Mkenda, 2004. Determinants of FDI Inflows to African Countries: A Panel Data Analysis. Globalisation and East Africa Working Paper Series No. 11	They used a panel data estimation technique for their study in order to determine the key factors that account for FDI inflows in a selected African Countries.	Their results showed that government consumption was negatively insignificant to FDI inflows.
Biglaiser and DeRouen, 2006. Economic Reforms and Inflows of Foreign Direct Investment in Latin America. Latin American Research Review: 41(1)	They estimated the effect of political and economic variables on FDI in Latin America by creating models for panel data and then using panel-corrected standard error (PCSE) procedure to estimate their model.	Their estimations suggested that in the good governance model, government consumption has a negative though insignificant impact while the economic reform model, government consumption is negatively significant.
Sudarsono, 2008. The Determinants of FDI Inflows on OIC Countries. Jurnal Ekonomi Pembangunan: 3(3)	The study used econometric model based on panel data analysis for OIC Countries to identify the determinants of FDI inflows in regions for the period 1980-2000.	The study revealed that government consumption of OIC countries was not significant in attracting FDI.

### 3.7 CONCLUSION

This chapter above discussed theories of foreign direct investment and clearly shows the complexity of the field and how the theories of foreign direct investment have evolved over the last decades. As often stated, no one singular theory explains the foreign direct investment decisions but rather a collection of theories. However, irrespective of the above assertion, it is necessary to know by means of empirical analysis, how these theories influence FDI activities in Sub-Saharan Africa. Although the literature suggests that foreign direct investment in developing regions especially Sub-Saharan Africa will be biased mostly towards the theory assuming imperfect markets, the empirical analysis in the subsequent chapters will seek to test this. By so doing, the variables that would be used for the

empirical analysis will capture the various hypotheses that have been developed under these classified theories of FDI, and in addition, as they relate to the broad four pillars (Human Capital, Governance, Infrastructure, and Economic Structure) as discussed in chapter 2.

The review of empirical studies has shown that there exist significant inconsistencies as to how FDI determining variables influence its activities. Similarly, the review of the empirical literature demonstrated some gaps in the FDI literature which this research hopes to fill in the subsequent empirical chapters. The reviewed empirical literature has shown gaps in the following ways and most particularly, for Sub-Sahara Africa. First, most of the FDI studies sparingly used the hypotheses as discussed in the classified theories of FDI. Second, past studies of FDI in Sub-Saharan Africa have analysed just three (resource seeking, market seeking and efficiency seeking variables) out of the four location influencing variables). Third, studies on FDI in Sub-Saharan Africa do not incorporate differences that arise from structural and behavioural factors. Fourth, FDI studies on developing countries are yet to analyse any comparisons in FDI determinants between the two least recipient regions (Sub-Saharan Africa and MENA).

## **CHAPTER FOUR**

### **FIRM PERFORMANCE**

#### **4.1 INTRODUCTION**

The study of firm performance has become a key factor in the fields of strategic management and industrial organisation with the latter field providing the theoretical basis for the determinants of firm performance (Soehadi, 2001; Hawawini et al, 2003). Similarly, some questions regarding firm performance have developed over the last few decades. These questions cut across all aspects of the firm (Mehra, 1996). That is, why are some firms more profitable than others? Why do firms differ in how they behave and choose their strategies? How does the environment in which firms operate in affect or enhance their performance? How are firms managed? (Porter, 1991) As argued by Porter (1991) answering some of these questions would need a preliminary understanding of the meaning success. Therefore, firm success is assumed to be the ability to attain a competitive and/or series of competitive positions that enhance financial performance. Three essential conditions are involved. First, firms should develop and implement a set of goals and policies that collectively maintain its position in the market. Second, these goals and policies should support the firm's strengths and weaknesses with the external (industry) opportunities and threats. Third, the strategy of a firm should be fundamentally concerned with the creation and exploitation of its distinctive capabilities and know-hows.

Quantifying firm success requires some understanding of performance variables such as profitability, productivity and economies of scale. Another aspect in the literature of firms' success is identifying those factors and market environments which enhance or impede

performance (Acs and Audretsch, 1987). One of the arguments on firms' performance leans in support of firms being more productive due to innovative and capital intensive activities and the existence of imperfect competition (Schumpeter, 1976; Acs and Audretsch, 1987). Another supports that the performance of firms is explained by lower costs realised through better management and/or production processes. These two lines of arguments are known as the structure-conduct-performance hypothesis (SCP) and the efficient-structure (EFS) hypothesis (Goldberg and Rai, 1996). On the other hand, the environmental conditions and uncertainty in which firms operate can also determine their level of performance (Soehadi, 2001).

This chapter will be structured as follows: 1). Determinants of firm performance including a review of empirical studies on firm performance; 2). Firm environment in Sub-Saharan Africa

## **4.2 DETERMINANTS OF FIRM PERFORMANCE**

Scholars in the field of strategy and industrial economics argue that the different aspects of firms and their environment are really important to their success. However, due to the complexity and the changing nature of firms and their environment, early research on firm success offered no substantive theory for evaluating firm performance and its competitive environment. Thus, early literature on firm performance was made up of wide-ranging principles governing firm success (Porter, 1991). Moving on from the early literature on firm performance, two paradigms have played important roles in understanding the determinants of firm performance. They are the structure-conduct performance hypothesis (SCP) and the efficient-structure hypothesis (Goldberg and Rai, 1996).



#### **4.2.1 STRUCTURE CONDUCT PERFORMANCE**

The structure-conduct performance paradigm has dominated the industrial organisation and economics literature for so many decades (Slade, 2004). See works by Bain, (1956); Baldwin (1969); Scherer (1971); Frass and Greer (1977); Jacquemin et al, (1980); Gupta (1983); Schumacher (1991); Resende (2007), etc. The paradigm suggests the variations in firm performance are mainly driven by the market structure or level of concentration in which firm operates (Hawawini et al, 2003; Amato and Amato, 2004). According to the hypothesis, firms can be inefficient and yet not face the threat of being forced out of the market if the market is more concentrated (Fu and Heffernan, 2009). The hypothesis is developed based on the oligopolistic and imperfect competition frameworks. The implications of these frameworks are that under these conditions, collusive arrangements and imperfect competitive practices amongst firms are less costly to maintain and thus, higher profits and monopolistic rents (Schumpeter, 1976; Acs and Audretsch, 1987; Evanoff and Fortier, 1988; Goldberg and Rai, 1996). The phrase conduct include activities such as, research and development and market concentration while the determinant of conduct will include variables such as, size, barrier to entry (monopoly) and degree of product differentiation (McWilliams and Smart, 1993). Due to data availability, measures of market concentration and degree of product differentiation were not employed in the empirical analysis and thus, would not be discussed.

##### **4.2.1.1 Barrier to Entry/Monopolistic Activities**

This theory argues that one of the relationships between monopolistic activities and profitability is through firms' pricing behaviour. The greater the cost of entry, the easier it is for existing firms to persistently raise their prices above a competitive level and thus, sustain monopoly profits (Evanoff and Fortier, 1988; McWilliams and Smart, 1993). That is, in

perfectly competitive markets where firms engage in perfectly elastic demand, there will be lower profitability when compared to other markets with less elastic demand (Chirwa, 2003).

#### **4.2.1.2 Firm Size**

Size plays a part in the profitability of firms. The argument to justify this assertion is that large firms possess all the options of small firms, and can also invest in areas that require some types of scale that small firms will be excluded (Hall and Weiss, 1967). Smaller firms are particularly vulnerable to demise due to their lower survival probability, lack of market experience and difficulty in accessing the capital market (Miller and Cardinal, 1994; Dhawan, 2001; Beck et al, 2005). On the other hand, the superiority of larger firms in comparison to smaller firms is due to market power, strategic grouping and economies of scale (Dhawan, 2001; Amato and Amato, 2004).

#### **4.2.1.3 Foreign Ownership**

The foreign investment literature argues that within given country and industry contexts, firms associated with foreign ownership are more likely to be profitable and productive than their domestic counterparts (Halkos and Tzeremes, 2007; Chhibber and Majumdar, 1999; Aydin et al, 2007). The argument on firm size and performance hypothesis partly supports this assertion. Multinational firms accumulate market power as a function of their size and expertise in operation developed in domestic markets (Annavaarjula, and Beldona, 2000). Other lines of argument are that firms with foreign ownership possess firm-specific tangible assets such as, technology and patent designs, and intangible know-hows like marketing, managerial experience, networking and sourcing capabilities. Therefore, the association of local firms with foreign ownership permit them access to these tangible and intangible

assets thereby enabling them better productive output than the solely domestic owned firms, given the same level of inputs (Halkos and Tzeremes, 2007; Yudaeva et al, 2003).

#### **4.2.2 EFFICIENT STRUCTURE HYPOTHESIS**

An alternative approach to explain firm performance was developed after so many studies criticised the structure conduct performance studies for containing too many inconsistencies and contradictions. This approach is known as the efficiency structure hypothesis (Lloyd-William and Molyneux, 1994). Although, both hypotheses – the structure conduct performance and efficiency structure hypothesis, are often viewed as potential complimentary theories instead of substitutes (Evanoff and Fortier, 1988). The efficient structure hypothesis argues that market structure is not the cause of superior firm performance but rather that superior firm performance is a consequence of firm superior efficiency (Samad, 2008). When firms enjoy a higher degree of efficiency (through cost, manpower, superior management and technology) than their competitors, they can easily capture a larger market share through reducing their prices and thus, earning economic rents (Goldberg and Rai, 1996; Samad, 2008; Fu and Heffernan, 2009). In the presence of these superior efficiencies, firms will reap additional profits irrespective of the extent of entry barriers and collusive behaviours (Evanoff and Fortier, 1988). Empirical studies of the efficiency hypothesis have used market share and resource-based view variables to capture firm-specific efficiency (Lloyd-William and Molyneux, 1994). However, due to data availability, measures of market share are not employed in the empirical analysis and thus, will not be discussed in details. Market share is measured by the fraction of the market that a firm is able to capture (that is, firm's sales/total market sales) (Kurtz and Rhoades, 1992; Genchev, 2012).

#### **4.2.2.1 Resource-Based View**

The resource-based view of the firm views the inelastic tangible physical assets and intangible assets that firms possess and use effectively and efficiently as the main driving force behind firms performance and competitive advantages (Riahi-Belkaoui, 2003; Ray et al, 2004; Michalisin et al, 2004). Thus, this approach views the firm not through its activities in the product market but as a distinctive package of tangible and intangible resources (Mehra, 1996; Carpenter et al, 2001). Examples of these firm specific tangible and intangible assets include plant, equipment and machinery, physical technologies, production and managerial skills, patents, R&D, Innovation, and market abilities. The tangible assets (plant, equipment and machinery, physical technologies) are easily prone to imitability and can be easily acquired and sold in the open market. However, intangible assets (production and managerial skills, patents, and market abilities) are mostly characterised by rarity and not easily imitable (Riahi-Belkaoui, 2003).

##### **4.2.2.1.1 Capital Intensity**

Capital intensity captures the amount of money invested in order to get one unit currency worth of output (Shaheen and Malik, 2012). Firms that are capital intensive possess significant capital assets such as, plant, equipment and machinery (Miller and Cardinal, 1994). Capital intensive firms are viewed to be more efficient due to their superior capital budgeting techniques and adaptability to sophisticated techniques (Klammer, 1973). These superior efficient techniques would allow firms enjoy lower production costs per unit of output (Agarwal, 1976) and improved quality of production (Shaheen and Malik, 2012).

#### **4.2.2.1.2 Human Capital**

Human capital is very vital in the creation of firm-specific competitive advantages (Hitt et al, 2001). The human capital theory also states that skills and experience embodied in a workforce are valuable assets that can increase productivity and the economic value of firms (Shrader and Siegel, 2007; Bryan, 2006). However, certain factors need to be met before firms can boast of these competitive advantages. 1). the level of human capital firms possess must be able to add value in the production processes of firms. 2). the level of skills embodied in the human capital available to the firms must be rare. 3). the type of skills firms' human capital is characterised with should not be imitable. While, human skills are not easily imitable as equipment and machinery, any investments in firm-specific human capital acquisition would further reduce the chances of imitability by competitors. 4). for firm's human capital to mount a sustainable competitive advantage, it should not be prone to replacement through advancement in technology or other substitutes (Huselid, 1995; Wright and McMahan, 1992). Asides firms responding to increased competition by upgrading the skills of their workforce, firms with higher proportion of skilled workers exercise much stronger economic rent than those with a higher fraction of unskilled workers (Revenge, 1997).

#### **4.2.3 OTHER FIRM DETERMINANTS**

Firms in uncertain environments face big challenges when making strategic decisions because the abrupt changes associated with these uncertainties are not just difficult to foresee but their consequences are also hard to predict (Calantone and Benedetto, 1994). These environmental uncertainties include political instability, government policy instability, macroeconomic uncertainties, corruption etc. (Miller, 1992). These uncertainties directly influence costs of production and their impact felt most especially in traded sectors

that are not particularly intensive in natural resources such as, manufacturing and high-value services (Eifert, et al, 2005).

#### **4.2.3.1 Political Instability**

Political instability is often associated with major changes in political regimes. It portrays the threats and opportunities associated with potential or actual changes in the polity. Known causes of political instability include forceful or democratic changes in governments or heads of state, revolution and war (Miller, 1992). According to Bae et al, (2008) one of the significant ways through which operational risk of firms is increased is through changes in the political situations of host countries and its associated likelihood of project disruption (Elango, 2006). Other ways include physical destruction of tangible assets and infrastructure used in production, labour and skill composition, and reduction in income and its concomitant decline in demand of produced goods and services (Collier and Duponchel, 2013).

#### **4.2.3.2 Government Policy Uncertainty**

This type of uncertainty refers to the instability associated with government policies that has a direct or indirect impact of business activities. Changes in government regulation, embargos to earnings repatriation, fiscal and monetary reforms, and threat of nationalisation are some of the main types of government policy uncertainties. Business activities can still be affected even when policies remain unchanged if managers have any reason to doubt the government's commitment towards the status quo of existing policies. The role of government policy in the provision of public goods is another aspect of policy risk. Poor provision of public services such as public utility, infrastructure and communication can have an adverse effect on firm productivity (Miller, 1992). If these types of uncertainty

thrive, firms cannot get reliable services and thus, performance and profitability of firms could be affected (Dollar et al, 2005).

#### ***4.2.3.2.1 Infrastructure***

Good quality infrastructure such as decent local roads, quality transportation networks, stable power supply/generation, and excellent telecommunication network can have positive effects on the performance of manufacturing, and high-value service firms (Eifert et al, 2005). Firms operating in quality infrastructural environments benefit from logistical and cheaper transaction costs which improve the competitiveness of products, production process efficiency, and access to markets thus, improving firm performance (Escribano et al, 2010). Quality infrastructure can also influence the extensive use of existing resources such as labour and capital (Fox and Porca, 2001).

#### **4.2.3.3 Macroeconomic Uncertainty**

This type of uncertainty covers fluctuations in the level of economic activity such as inflation, interest rates and access to finance (Miller, 1992). Better macroeconomic environment increase host country's market attractiveness and improves firms efficiency and performance (Okoroafo, 1993).

##### ***4.2.3.3.1 Access to Finance***

It is argued that if finance is made available, then investment would follow (Reinikka and Svensson, 2002). Similarly, the corporate finance theory suggests that developed financial systems boosts the firms' capabilities to fund investment projects and thus, enhances performance (Beck et al, 2005). Firms facing difficulty in obtaining credit unrelated to their own performance may not be able to exploit productivity-enhancing investment

opportunities and are likely to experience unwanted friction in their financial structures (Arnold et al, 2008; Hallward-Driemeier et al, 2006).

#### **4.2.3.4 Corruption**

Corruption is known as the misuse of public office for private gain. Corruption exists mainly as a unilateral opportunity for individuals to enrich themselves through illegal means (Sahakyan and Stiegert, 2012). The broad understanding of this phenomenon covers a wide range of factors such as bribery, extortion by custom officials, and inappropriate royalty demands from public officials. Corruption often takes the form of two parts: 1). illegal transaction between public officials and private businesses; 2). illegal misappropriation of public property by public officials. The former and the latter forms of corruption have direct and indirect impact respectively on the activities of firms (Gaviria, 2002).

The illegal transactions between public officials and private businesses can raise transaction costs and create uncertainties for firms due to the secrecy with which bribe payments are carried out and the fact that such illegal agreements are not enforceable in a law court (Fisman and Svensson, 2007). Exporting firms can be less competitive if custom officials demand huge bribes to complete pre-shipment inspections. Also, firms can be put out of business if corrupt officials allow illegal business practices to go unchecked and/or fail to enforce copyright regulations. The illegal misappropriation of public property by public officials can have indirect impact on firms when these corrupt activities lead to the deterioration of public finances, infrastructure, public services and business environment (Gaviria, 2002). On the other hand, some scholars have argued that corruption can actually be beneficial to firms. They argue that economies characterised by bureaucratic holdups can see firms circumvent their ways through bribery (De Rosa et al, 2010). Similarly, a system built on bribery will allocate licences and government contracts to the most efficient firms



since these firms are the ones that can afford to pay the biggest bribes (Fisman and Svensson, 2007).

### **4.3 SOME EMPIRICAL STUDIES ON DETERMINANTS OF FIRM PERFORMANCE**

There is a substantial empirical literature on the determinants of firm performance that includes both developed and developing countries, however the latter category of countries is sparse. Some of these studies asides being in favour of either of the hypotheses of firm determinants, equally have conflicting findings. The review of the empirical studies would be organised according to the theories of firm performance.

#### **4.3.1 Structure Conduct Performance**

Schivardi and Viviano (2010) investigated the effects of entry barriers on the performance of Italian retail firms during the period, 1998-2003. They found that entry barriers positively and negatively influence profitability and productivity respectively. To justify these mixed findings, they argued that their data support the general view that barrier to entry reduces efficiency and increases prices for consumers while deregulation increases productivity. Karakaya and Parayitam (2013) studied the interrelationships between barriers to market and the impact of entry barriers on firm performance using 190 US firms in 2009. The findings suggested a curvilinear relationship between barriers to entry and firm performance. These findings according to them were due to the relationships between barriers to entry and firm strategy, and firm strategy and firm performance. Arnold et al, (2011) examined the link between sector reforms (abolition of monopolies) and the productivity of manufacturing firms in Czech Republic from the period 1998-2003. The results revealed that these reforms had a positive relationship with firm performance. However, the performance was linked to the entry of foreign firms into the manufacturing

industries. Viani (2004) compared the operating performance of 23 telephone firms under private and state control in less developed countries over the time period, 1986-2001. The results showed that amongst other findings, monopoly was associated with higher profitability regardless of the type of firm control.

Majumdar (1997) investigated the impact of firm size and age on the performance of 1020 Indian firms however the findings on firm size produced mixed conclusions. While on one hand, firm size was positively related to firm profitability on the other, it was negatively related to firm productivity. They ascribed these mixed findings to the industrial regression, industrial policy instruments, and institutional framework that characterise the Indian Economy. Asimakopoulos et al, (2009) employed a sample of non-financial Greek firms over the period 1995-2003 to examine the determinants of profitability. Results of the examination revealed that firm size had a positive relationship with firm profitability. They attributed this relationship to the fact that larger Greek firms take advantage of their position to negotiate better prices for their input and thus, benefit from reduced average costs. Bae et al, (2008) analysed the relationship between firms' multinationality and performance using a sample of 672 US manufacturing during the period 1997-2000. Amongst other findings, the results showed that firm size had a positive relationship with firm performance thus, confirming the theoretical assumption that larger firms tend to be more profitable. Lee (2009) examined the determinants of firm performance on a sample of 7000 US firms for the period 1987-2000. The examination revealed that firm size was positively related to firm profitability however, the relationship was non-linear. That is, larger firms tend to enjoy higher profitability but the rate of profit reduces as firms continue to grow. They however, provided the following plausible explanations to support this relationship. First, the competitiveness of the US marketplace was high with 45% of the firms examined having experienced on average, losses during the period studied. Second, profits were short-lived

rather than persistent over time. Third, although firm size matters for profit some other factors matter even more.

To examine if there are significant differences in the performance of firms as a result of foreign ownership, Gurbuz and Aybars (2010) employed a sample 205 non-financial Turkish firms for the time period, 2005-2007. The examination showed that foreign ownership is positively related to firm performance however, the relationship is non-linear. That is, foreign ownership can only improve firm financial performance up to a certain degree after which, any additional ownership by foreigners would not add to firm financial performance. This non-linear relationship was attributed to the unique business environment of Turkey which makes certain level of domestic ownership valuable in the operations of firms. Yudaeva et al, (2003) compared the productivity of firms that are fully domestically owned and firms that are partially owned by foreigners in Russia for the period, 1993-1997. The comparison revealed that foreign owned firms are more productive than domestic owned firms and this was ascribed to the superior technological and managerial know-how Russian firms affiliated to foreign ownership possess. Aydin et al, (2007) investigated whether foreign owned firms perform significantly better than domestically owned firm in Turkey during the period, 2003-2004. The findings showed that foreign owned participation firms performed better than domestic owned firms because they possessed better managerial skills and technological know-how. Also, Majumdar (1997) showed that firms affiliated with foreign ownership performed better than domestically-owned firms when they analysed the determinants of performance in 1020 Indian firms. This better performance was attributed to the superior capabilities that come with foreign ownership. Similarly, Filatotchev et al, (2005) analysed the effects of ownership structure and board characteristics on the performance of 228 firms on the Taiwanese Stock Exchange in 1999. Amongst other findings, foreign ownership had a positive and significant relationship with

firm performance. This relationship was attributed to the following. First, foreign ownership comes with a larger access to global pool of financial resources as compared to domestic institutions. Second, foreign ownership is associated with enormous wealth of experience to deal with managerial opportunism in various national and cultural settings. Third, foreign ownership provides access to strategic expertise and knowledge which are needed to stay competitive above wholly owned domestic firms.

#### **4.3.2 Efficient Structure Hypothesis**

Anic et al, (2009) used a survey data from 2007 to ascertain the determinants of firm performance in 210 Croatian manufacturing firms. The findings showed a positive relationship between capital intensity and firm performance. They supported this relationship due to the fact that capital intensive manufacturing firms in Croatia were more competitive, experienced steady company's growth, had better labour productivity, and efficiently utilised fixed assets per employee. Lee and Xiao (2011) investigated the relationship between capital intensity and firm performance on a sample of US hotel and restaurant industries from 1990-2008. The investigation however, produced mixed results. There was a curvilinear relationship between capital intensity and firm performance during the 2000s. However, there was no relationship between capital intensity and firm performance during the 1990s. The mixed results were due to certain structural changes in terms of capital intensity in both US hotel and restaurant industries during the 1990s and 2000s. According to the study, the franchising strategy employed by many US hospitality firms really matured during the 2000s. Hecht (2008) modelled the profitability and capital intensity on a sample of Japanese, German, UK, and US firms and found a negative relationship between capital intensity and profitability. They argued that their finding is contrary to the general concept in the industrial organisation and strategic management literature. Ullah et al, (2013) broadly ascertained the determinants of firm performance in a

sample of 100 manufacturing Pakistani firms over the period 1998-2009. Their findings showed capital intensity reduced firm profitability. A plausible explanation for the negative relationship is that in developing countries acquiring and maintaining physical capital involves high costs in relation to labour costs.

Honig (2001) examined the importance of human capital and resource allocation on profitability in 64 manufacturing firms in the West Bank. The findings however, produced mixed results. Human capital in the smallest firms is positively related to performance while human capital in the larger firms is of lesser importance. Also, work experience has no significant effect on profitability. The study suggested that the heterogeneity of these firms might have been responsible for these mixed results. Bryan (2006) employed a sample of 114 manufacturing firms in Wales for two time periods (1997 and 2003) to investigate the impact of training on firm performance. The findings showed that both in-house and external management training had a positive impact on firm performance. Carpenter et al, (2001) estimated the impact of human capital on performance in 245 US multinationals for the period, 1994-1996. Their findings showed that CEOs with valuable, rare, and inimitable skills created values for their firms and that the firms with CEOs with international assignment experience performed even better. Hitt et al, (2001) analysed the direct and moderating effects of human capital on the performance of 93 US service firms for the period, 1987-1991. The results showed that human capital had a positive impact on firm performance thus suggesting that the firms investigated used human resources available to them to create competitive advantage. Skaggs and Youndt (2004) investigated how strategic positioning of service organisations related to their human capital and how in turn human capital impact on performance. The study covered 234 service organisations in 1998. The results revealed that human capital had a positive impact on performance thus lending

support to the basic argument that human capital is vital to the production and delivery processes of organisations.

#### **4.3.3 Other Firm Determinants**

Klapper et al, (2013) examined the impact of political instability and civil conflict on Ivorian firms for the period, 1998-2003. Results of the examination revealed that political instability and civil conflict had a negative impact on performance through their negative effects on total factor productivity and operating costs. Also, firms owned by foreigners or employing foreign workers were mostly affected. Petracco and Schweiger (2012) explored the impact of conflict on the performance of Georgian firms from 2008-2009. The findings revealed that political instability had a negative impact on firms' performance with younger firms experiencing a larger negative effect. The reduction in the volume of exports and sales are channels through which the Georgian firms were affected. Collier and Duponchel (2013) analysed the impact of violent conflict on 667 Sierra Leonean firms in 2007 and found that political instability affected firm performance through technical regress, decline in demand, and loss of workers' skills. Ayyagari et al, (2008) investigated the impact of business environment on the performance of firms in 80 developed and developing countries from 1999-2000. The results of the investigation showed that political instability as measured by street crime had a negative impact on firm performance.

Li et al (2011) employed 1164 and 1597 Chinese and Indian manufacturing firms respectively in 2003 to analyse the role of the local business environment in explaining the China-India firm productivity difference. The results revealed that one of the reasons Chinese firms performed better than Indian firms was the infrastructural superiority China possesses over India. Dollar et al, (2005) examined the impact of institutional and policy weaknesses on firm performance in a sample of Bangladeshi, Indian Pakistani and Chinese firms. Power losses as proxied for infrastructure had a negative relationship with firm

performance. This negative relationship was attributed to government's failure in providing the infrastructure services (power distribution, public grid, power generation, and power transmission) that firms need. Mengistae and Honorati (2007) assessed the role of institutional variables on the performance of a sample of Indian firms for the period, 2002 and 2005. Power shortages were found to have a negative impact on the growth rate of firms especially for firms that reported corruption as one of the major obstacles. The existence of a property rights dimension to power shortages in India was attributed to this finding. Atsush (2011) employed a sample of 4300 firms in 26 countries in Europe and Central Asia to estimate the impact on firm costs of infrastructure quality. The findings indicated that the unreliability of infrastructural services reduced firms' performance and competitiveness. Hallward-Driemeier et al, (2006) examined the impact of ownership and regional investment climate on the performance of a sample of 1500 firms in five Chinese megacities in the year 2000. One of the findings showed that quality of infrastructure proxied by losses in sales due to transportation and power problems have no significant effect on firm performance.

Beck et al, (2005) examined the financial and legal constraints on the performance of 4000 firms in 54 countries. Amongst other findings, obstacle in obtaining finance impeded firm performance with the smallest firms most adversely affected. Coluzzi et al, (2012) assessed the impact of financial obstacle on the performance of 155000 firms in five major euro area countries for the time period, 1999-2000. The findings showed that financial obstacle had a negative impact on firm performance in 4 out of the 5 euro countries they investigated. Also, the negative impact will be larger in smaller firms. Similarly, Ayyagari et al, (2008) having investigated the impact of business environment on the performance of firms in 80 developing countries from 1999-2000, argued that the difficulty in obtaining finance hindered the performance of firms in their sample. However, Hallward-Driemeier et

al, (2006) found no significant relationship between access to finance and firm performance in a sample of 1500 Chinese firms. They attributed this to the inefficiencies of the state-owned Chinese banks.

Asiedu and Freeman (2009) investigated the impact of corruption on firm-level investment growth in a sample of 10032 firms in 81 countries for the period, 1996-2000. The investigation revealed mixed findings. Corruption had a negative impact on firms' performance in transition countries but no significant impact on firm's performance in Latin America and Sub-Saharan Africa. The plausible reason for the insignificant impact in Latin America and Sub-Sahara African firms was attributed to the fact that corruption can provide private rents to firms. However, these rents may not translate to social gains. De Rosa et al, (2010) examined the impact of corruption on a sample of Central and Eastern European firms for the period, 2009. The findings showed that corruption as measured by bribery was negatively related to firm performance. Fisman and Svensson (2007) examined the impact of corruption on the growth rate of 176 Ugandan firms for the period, 1995-1997. The results of the examination revealed a negative significant relationship between bribery payments and firm growth. This was ascribed to the fact that corruption retards the development process of these firms. Gaviria (2002) investigated the effects of corruption and crime on firm performance in Latin American countries from 1997-1999. The findings showed that corruption significantly affected the performance of firms through its negative impact on firm competitiveness. Conversely, Vial and Hanoteau (2010) analysed the impact of corruption on the productivity of Indonesian manufacturing firms for the period, 1975-1995. The findings showed that firms with higher bribe-to-value added ratio benefit significantly higher output and productivity growth. The findings thus, support the "grease the wheels" hypothesis and the Asian paradox that characterised the Indonesian system during the period under study.



**Table 11 Summary of Some of the Empirical Studies on the Determinants of Firm Performance**

Author	Purpose/Methodology	Findings
<b>Structure Conduct Performance</b>		
<i>Firm Performance, Barrier to Entry/ Monopoly, firm size, and foreign ownership</i>		
Karakaya, F., and Parayitam S., 2013. Barriers to Entry and Firm Performance: A Propose Model and Curvilinear Relationships. Journal of Strategic Marketing, 21(1): 25-47	The paper used hierarchical regression analysis to examine the interrelationships between barriers to market and the impact of barriers on firm performance. The analysis covers 190 US firms in 2009.	The results suggested a curvilinear relationship between barriers to entry and firm performance. An explanation to this relation is possible relationships between barriers to entry and firm strategy and firm performance.
Schivardi, F., and Viviano E., 2010. Entry Barriers in Retail Trade. The Economic Journal, 121(551): 145-170	The study employed panel data estimation technique to determine the effects on entry barriers on the performance of Italian retail firms during the period, 1998-2003.	The findings showed that entry barriers were positively related to firm profits but negatively related to firm's productivity.
Arnold, J. M., Javorcik B. S., and Mattoo A., 2011. Does Service Liberalisation Benefit Manufacturing Firms? Evidence from the Czech Republic. Journal of International Economics, 85: 136-146	The link between sector reforms (privatisation and the abolition of monopolies) and the productivity of manufacturing firms in Czech Republic during the period 1998-2003 was examined using OLS and semi-parametric estimation techniques.	The results revealed a positive relationship between these reforms and firm performance. This performance was linked to entry of foreign firms into these industries.
Viani, B. E., 2004. Private Control, Competition, and the Performance of Telephone Firms in Less Developed Countries. International Journal of the Economics of Business, 11(2): 217-240	Using fixed effects estimation technique, the paper compared the operating performance of 23 telephone firms under private and state control in less developed countries. The time period covered was 1986-2001.	The results showed that amongst other findings, monopoly is associated with higher profitability regardless of the type of firm control.
Bae, S. C., Park B. J. C., and Wang X., 2008. Multinationality, R&D Intensity, and Firm Performance: Evidence from US Manufacturing Firms. Multinational Business Review, 16(1): 53-78	The study examined the relationship between firms' multinationality and performance. It employed regression techniques on a sample of 672 US manufacturing firms for the period, 1997-2000	The results show that size (one of the control variables) has a positive relationship with firm performance. Thus, confirming the theoretical assumption that larger firms tend to be more profitable.
Asimakopoulous, L., Samitas A., and Papadogonas T., 2009. Firm-Specific and Economy Wide Determinants of Firm Profitability: Greek Evidence Using Panel Data. Managerial Finance, 35(11): 930-939	Panel OLS and Fixed Effects techniques were used to investigate the determinants of profitability in a sample of non-financial Greek firms for the period, 1995-2003.	Results revealed that size was one of the positive determinants of firm profitability. This positive relationship might have been as a result of larger firms taking advantage of their position to negotiate better prices for their input, and thereby benefiting from reduced average costs.
Majumdar, S. K., 1997. The Impact of Size and Age on Firm-Level Performance: Some Evidence from India. Review of Industrial Organisation, 12: 231-241	Regression analysis was used to investigate the impact of size and age on the performance of 1020 Indian firms.	The results showed that size is positively related to firm profitability but negatively related to firm productivity. These mixed findings were attributed to the industrial regression, industrial policy instruments, and institutional framework of the Indian Economy.
Lee, J., 2009. Does Size Matter in Firm Performance? Evidence from US Public Firms. International Journal of the Economics of Business, 16(2): 189-203	The paper examined the determinants of firm performance using a fixed effects dynamic panel model on a sample of over 7,000 US firms for the period 1987-2006	The examination revealed that firm size is positively related to firm profitability however, the relationship is non-linear. That is, larger firms tend to enjoy higher profitability but the rate of profit reduces as firms continue to grow.
Majumdar, S. K., 1997. The Impact of Size and Age on Firm-Level Performance: Some Evidence from India. Review of Industrial Organisation, 12: 231-241	Regression analysis was used to investigate the impact of size and age on the performance of 1020 Indian firms. However, foreign ownership was one of the control variables employed.	Finding showed that firms affiliated with foreign ownership perform better than domestically-owned firms.
Aydin, N., Sayim M., and Yalama A., 2007. Foreign Ownership and Firm Performance: Evidence From Turkey. International Research Journal of Finance	Employing statistical technique (t-test), the study investigated whether foreign owned firms perform significantly better than domestically owned firms in Turkey during	Foreign owned participation firms performed better than domestic owned firms with respect the performance measure employed (return on asset).

and Economics, 11: 103-111	the period 2003-2004.	
Yudaeva, K., Kozlov K., Melentjeva N., and Ponomareva N., 2003. Does Foreign Ownership Matter? The Russian Experience. Economics of Transition, 11(3): 383-409	The study employed panel regression analysis to compare the productivity of firms that are fully domestically owned and firms that are partially owned in Russia for the period, 1993-1997	The analysis revealed that foreign owned firms are more productive than domestic owned firms and this is attributed to the superior technological and managerial know-how Russian firms affiliated to foreign ownership possess.
Gurbuz, A. O., and Aybars A., 2010. The Impact of Foreign Ownership on Firm Performance, Evidence from an Emerging Market: Turkey. American Journal of Economics and Business Administration, 2(4): 350-359	The paper used a Generalised Least Square regression technique to examine whether there are significant differences in the performance of Turkish firms as a result of foreign ownership. The time period for the analysis is from 2005-2007.	The investigation showed that foreign ownership is positively related to firm performance however, the relationship is non-linear. That is, foreign ownership can only improve firm financial performance up to a certain degree after which, any additional ownership by foreigners would add to firm's financial performance. This non-linear relationship was attributed to the unique business environment of Turkey which makes a certain level of domestic relationships valuable in the operations of firms

## Efficient Structure Hypothesis

### *Firm Performance, Capital Intensity, and Human Capital*

Hecht, J., 2013. Modelling Cross-Sectional Profitability and Capital Intensity Using Panel Corrected Significance Tests. Applied Financial Economics, 18(18): 1501-1513	The study employed seemingly unrelated regression (SUR) models with panel corrected standard errors (PCSE) to model cross-sectional profitability and capital intensity on a sample of Japanese, German, UK, and US firms.	Capital intensity was negatively associated with profitability. This finding is contrary to the argument by industrial organization and strategic management literature.
Lee, S., and Xiao Q., 2011. An Examination of the Curvilinear Relationship Between Capital Intensity and Firm Performance for Publicly Traded US Hotels and Restaurants. International Journal of Contemporary Hospitality Management, 23(6): 862-880	The paper investigated the relationship between capital intensity and firm performance during the period, 1990-2008. Pooled regression analysis and a sample of US hotel and restaurant industries were employed for the analyses.	The analyses produced mixed results. There was a curvilinear relationship between capital intensity and firm performance during the 2000s. However, there was no relationship between capital intensity and firm performance during the 1990s.
Anic, I. D., Rajh E., and Teodorovic I., 2009. Firms' Characteristics, Strategic Factors and Firms' Performance in the Croatian Manufacturing Industry. Ekonomski Pregled, 60(9-10): 413-431	Using survey data from 2007, the study examined the determinants of superior in 210 Croatian manufacturing firms. One-way analysis of variance (ANOVA) was employed for the analysis.	There was a positive relationship between capital intensity and firm performance. Firms with higher capital intensity equally had superior performance.
Ullah, A., Ghani E., and Javed A. Y., 2013. Market Power and Industrial Performance in Pakistan. Pakistan Institute of Development Economics, PIDE Working Paper Series No. 2013: 88	The paper broadly ascertained the determinants of firm performance in Pakistan over the period, 1998-2009. The sample size covers 100 manufacturing firms and panel data analysis techniques (partial least squares regression and random effects) were employed.	Contrary to literature, one of the findings showed that capital intensity reduced firm profitability. A plausible explanation for this negative relationship are the high costs involved in acquiring and maintaining physical capital in relation to labour cost, especially in developing countries.
Carpenter, M. A., Sanders G., and Gregersen H. B., 2001. Bundling Human Capital with Organisational Context: The Impact of International Assignment Experience on Multinational Firm Performance and CEO Pay. The Academy of Management Journal, 44(3): 493-511	The study employed OLS and two-stage least square regressions to estimate the impact of human capital on 245 US multinationals for the period 1994-1996	Their findings showed that CEOs with valuable, rare, and inimitable skills created values for their firms and that the firms with CEOs with international assignment experience performed even better.
Bryan J., 2006. Training and Performance in Small Firms. International Small Business Journal, 24: 635-660	Using cross sectional OLS regression technique, the study investigated the impact of training on firm performance on a sample of 114 manufacturing firms in Wales for two time periods (1997 and 2003)	The findings showed that both in-house and external management training had a positive impact on firm performance.
Hitt, M. A., Bierman L., Shimizu K.,	The study examined the direct and	The results show a positive impact of

Kochhar R., 2001. Direct and Moderating Effects of Human Capital on Strategy and Performance in Professional Service Firms: A Resource-Based Perspective. The Academy of Management Journal, 44(1): 13-28	moderating effects of human capital on a sample of 93 US service firms for the period 1987-1991 using panel GLS regression.	human capital on firm performance thus, suggesting that the firms examined used human resources available to them to create competitive advantage.
Skaggs, B. C., and Youndt M., 2004. Strategic Positioning, Human Capital, and Performance in Service Organisations: A Customer Interaction Approach. Strategic Management Journal, 25: 85-99	OLS regression was employed to investigate how strategic positioning of service organisations relates to their human capital and how in turn human capital impacts on performance. The sample in the study covered 234 service organisations in 1998.	Results revealed that human capital had a positive impact on performance thus lending support to the basic argument that human capital is vital to the production and delivery processes of organisations.
Honig, B., 2001. Human Capital and Structural Upheaval: A Study of Manufacturing Firms in the West Bank. Journal of Business Venturing, 16(6): 575-594	The study examined the importance of human capital and resource allocation on profitability in 64 manufacturing firms in the West Bank using minder equation and linear regression.	The findings produced mixed results. Human capital in the smallest firms is positively related to performance while human capital in the larger firms is of lesser importance. Also, work experience had no significant effect on profitability. The results further suggested that the heterogeneity of these firms might explain these mixed results.

## Other Firm Determinants

### *Firm Performance, Political Instability, Corruption Infrastructure, and Access to Finance*

Ayyagari, M., Demircuc-Kunt A, and Maksimovic V., 2008. How Important are Financing Constraints? The Role of Business Environment. World Bank Economic Review, 22(3): 483-516	Using firm level survey data (1999 -2000) for 80 developing and developed countries, the study investigated the impact of business environment on the performance of firms. Regression techniques as well as Directed Acyclic Graph (DAG) were employed for the analyses.	The results showed that obstacle related to political instability is negatively related to firm performance.
Klapper, L., Richmond C., and Tran T., 2013. Civil Conflict and Firm Performance: Evidence from Cote d'Ivoire. World Bank Policy Research Working Paper 6640	The study examined the impact of political instability and civil conflict on Ivorian firms for the period, 1998-2003. The analysis employed structure estimates of the production function and data from census of all registered firms.	Results of the analysis revealed that conflict reduced firms total factor productivity with firms owned or employing foreign workers mostly affected.
Collier, P., and Duponchel M., 2013. The Economy Legacy of Civil War: Firm-Level Evidence from Sierra Leone. Journal of Conflict Resolution, 57(1): 65-88	Using regression techniques and data from the World Bank 2007 Employer's survey, the study assessed the impact of violent conflict on 667 Sierra Leonean Firms.	Findings indicated that political instability affected firms' performance through technical regress, decline in demand, and loss of workers' skills.
Petracco, C., and Schweiger H., 2012. The Impact of Armed Conflict on Firms' Performance and Perceptions. European Bank from Reconstruction and Development Working Paper No. 152	The paper explored the impact of armed conflict on the performance of Georgian firms. Data from European Bank from Reconstruction and Development (EBRD), and World Bank Business Environment and Enterprise Performance Survey (BEEPS) and OLS regression were employed for the analyses.	Political instability had a negative impact on firms' performance with younger firms experiencing a larger negative effect.
Vial, V., and Hanoteau J., 2010. Corruption, Manufacturing Plant Growth, and the Asian Paradox: Indonesian Evidence. World Development, 38(5): 693-705	Panel data two-stage instrumental variables with fixed effect estimation technique was used to investigate the impact of corruption on the productivity of Indonesian manufacturing firms for the period, 1975-1995	The findings showed that firms with higher bribe-to-value added ratio benefit significantly higher output and productivity growth. Thus, supporting the "grease the wheels" hypothesis and the Asian paradox that characterised the Indonesian system during the period under review.
Gaviria, A., 2002. Assessing the Effects of Corruption and Crime on Firm Performance: Evidence from Latin America. Emerging Markets Review, 3: 245-268	The study used data from a survey conducted by the World Bank and the Inter-American Development Bank from 1997 to 1999, to investigate the effects of corruption and crime on firm performance in Latin American countries. OLS and Fixed Effects techniques were employed.	The findings revealed that corruption significantly affected firm performance through its negative impact on firm competitiveness.
Fisman, R., and Svensson J., 2007. Are Corruption and Taxation Really Harmful to Growth? Firm Level Evidence. Journal of Development Economics, 83: 63-75	Using OLS and Fixed Effects regression techniques, the study examined the impact of corruption on the growth rate of 176 Ugandan firms for the 1995-1997	The results showed a negative significant relationship between bribery payments and firm growth.
De Rosa, D., Gooroochurn N., and Gorg H., 2010. Corruption and Productivity	The impact of corruption on firm performance was assessed using OLS	Corruption as measured by bribery was found to have a negative effect on firm

Firm-Level Evidence from the BEEPS Survey. Kiel Working Paper No. 1632	techniques on a sample of Central and Eastern European firms for the period 2009.	performance.
Asiedu, E., and Freeman J., 2009. The Effect of Corruption on Investment Growth: Evidence from Firms in Latin America, Sub-Saharan Africa, and Transition Countries, 13(2): 200-214	To investigate the impact of corruption on firm-level investment growth, the study employed pooled OLS and iteratively reweighted least squares (IRLS) on a sample of 10,032 firms in 81 countries for the period 1996-2000.	The investigation revealed mixed findings. Corruption had a negative impact on firms' performance in transition countries but no significant impact on firms' performance in Latin America and Sub-Saharan Africa. The plausible reason for the insignificant relationship was attributed to the fact that corruption can provide private rents to firms. However, these rents may not translate to social gains.
Hallward-Driemeier, M., and Wallsten S., and Xu L. C., 2006. Ownership, Investment Climate and Firm Performance. Economics of Transition, 14(4): 629-647	The impact of ownership and regional investment climate on firm performance was examined using regression techniques on a sample of 1500 firms in five Chinese megacities in the year 2000.	One of the findings showed that quality of infrastructure proxied by losses in sales due to transportation and power problems have no significant effect on firm performance.
Atsush, I., 2011. Effects of Improving Infrastructure Quality on Business Costs: Evidence from Firm-Level Data in Eastern Europe and Central Asia. Journal of Developing Economies, 49: 121-147	Seemingly Unrelated Regression (SUR) technique was employed on a sample of 4300 firms in 26 countries in Europe and Central Asia to estimate the impacts on firm costs of infrastructure quality. The Business Environment and Enterprise Productivity Survey (BEEPS) were used for the analysis.	The findings indicated that the unreliability of infrastructural services reduced firms' performance and competitiveness.
Li, W., Mengistae T., and Xu L. C., 2011. Diagnosing Development Bottlenecks: China and India. World Bank Policy Research Working Paper No. 5641	The study investigated the role of the local business environment in explaining the China-India firm productivity difference. The data comprised 1,164 and 1,597 Chinese and Indian manufacturing firms respectively. Cross-sectional and panel regression techniques were employed for the analyses.	Results revealed one of the reasons Chinese firms performed better than Indian firms is the better infrastructure China has over India. Infrastructure was proxied as the quality of power supply.
Dollar, D., Hallward-Driemeier M., and Mengistae T., 2005. Investment Climate and Firm Performance in Developing Economies. Economic Development and Cultural Change, 54(1): 1-31	The impact of institutional and policy weaknesses on firm performance were examined using OLS and GLS estimation techniques on a sample Bangladeshi, Indian, Pakistani and Chinese firms.	Power losses as proxied for infrastructure had a negative impact on firm performance.
Mengistae, T., and Honorati M., 2007. Corruption, the Business Environment, and Small Business Growth in India. World Bank Policy Research Working Paper No. 4338	The paper assessed the role of institutional variables on the performance of a sample of Indian firms using OLS and GMM estimation techniques. The data utilised were from the Firm Analysis and Competitiveness Survey of India, and for the period 2002 and 2005.	Power shortages were found to have a negative impact growth rate of firms for firms that reported corruption as one of one of the major obstacles. The existence of a property rights dimension to power shortages in India has been attributed to this finding.
Ayyagari, M., Demircuc-Kunt A., and Maksimovic V., 2008. How Important are Financing Constraints? The Role of Business Environment. World Bank Economic Review, 22(3): 483-516	Using firm level survey data (1999 -2000) for 80 developing and developed countries, the study investigated the impact of business environment on the performance of firms. Regression techniques as well as Directed Acyclic Graph (DAG) were employed for the analyses.	The findings showed that difficulty in obtaining finance hindered firm performance.
Beck, T., Demircuc-Kunt A., and Maksimovic V., 2005. Financial and Legal Constraints to Growth: Does Firm Size Matter? The Journal of Finance, 60(1): 137-177	The study examined the financial and legal constraints on firm performance using regression techniques on a sample of size-stratified survey of 4000 firms in 54 countries.	One of the findings indicated that financial obstacle negatively affected firm performance with the smallest firms most adversely affected.
Hallward-Driemeier, M., and Wallsten S., and Xu L. C., 2006. Ownership, Investment Climate and Firm Performance. Economics of Transition, 14(4): 629-647	The impact of ownership and regional investment climate on firm performance was examined using regression techniques on a sample of 1500 firms in five Chinese megacities in the year 2000.	One of the finding revealed that access to finance in the region have no significant impact on firm performance and this was attributed to the inefficiencies of the state-owned Chinese Banks.
Coluzzi, C., Ferrando A., and Martinez-Carrasca C., 2012. Financing Obstacles and Growth: An Analysis for Euro Area Non-Financial Firms. The European Journal of Finance, 1-18	The study used panel data techniques including, GMM estimates to assess the impact of financial obstacle on firm performance. The study covered 155,000 firms in five major euro area countries for the period 1999 - 2000	The findings showed that financial obstacle had a negative impact on firm performance in 4 out of the 5 euro area countries investigated. Also, the negative impact will be larger in smaller firms.

## **4.6 FIRMS' ENVIRONMENT IN SUB-SAHARAN AFRICA**

Previously, Sub-Saharan African (SSA) firms operated under government dominated policies such as price controls, government subsidies, limited competition, and fixed exchange rate regimes (Acquaah and Amoako-Gyampah, 2003). However, the implementation of Structural Adjustment Programmes (SAPs) by countries in Sub-Saharan Africa (SSA) in the late 1980s has seen SSA firms operate under free market principles. The structural adjustment programmes were implemented to facilitate economic and structural transformation, liberalise the domestic economy, promote operational and productivity efficiencies, and to spur privately owned businesses, trade and investment (Amoako-Gyampah and Acquaah, 2008). These adjustment programmes have also produced unique changes in the business environments of SSA countries through increased competition in domestic markets and access into and to domestic and international markets respectively.

Irrespective of these SAPs, what have remained in the business environments of SSA countries are financial constraints, corruption (Bigsten and Soderbom, 2006), weak market-supporting institutions, political instability, poor infrastructure (transportation and communication networks, and irregular power supply), and inadequate human capital (Amoako-Gyampah and Acquaah, 2008). The inadequacy of human capital is due to the fact that firms in SSA most times lack employees with essential technical expertise, knowledge base and other skills required to achieve and maintain manufacturing superiority and/or experience difficulty in attracting and retaining skilled and experience employees (Acquaah and Amoako-Gyampah, 2003). Regarding the poor quality of infrastructure, SSA firms face high indirect costs with respect to transportation, electricity, logistics and telecommunication and thus, suffer significant losses as a consequence (Bigsten and Soderbom, 2006; Arnold et al, 2008).

## 4.7 CONCLUSION

It is relatively clear that the desire to understand what factors drive firm performance has led to the development of the two main hypotheses (structure conduct paradigm and Efficiency hypothesis) in the strategy and industrial economics literature. However, in recent decades the business and economic environments where firms operate have contributed significantly in the way the performance of firms is addressed. Another thing to point out is that given the degree of empirical research in the performance of firms, there exists no singular hypothesis between these competing hypotheses that best explains the performance of firms. Furthermore, the review of the empirical literature has shown a huge scope for contribution and in particular to the study of firm performance in Sub-Saharan Africa manufacturing sector. This is because very little empirical work on the performance of manufacturing firms has been done in the region. First, most of the empirical studies reviewed in this chapter neglected factors that are external to firms which can nevertheless impact of the performance of firms. Second, the structure conduct performance hypothesis, efficient structure hypothesis, and the environmental characteristics in which firms operate were not wholly captured in these studies.

In addition to the contribution this chapter brings, it is particularly important because as discussed in chapter 2, one of the ways in which Sub-Saharan Africa can experience sustained growth is through economic transformation (that is, from peasant agriculture to manufacturing). Thus, identifying some of the factors which influence the performance of manufacturing firm can help toward the much needed economic and structural transformation. Also, factors such as governance, human capital, and infrastructure have already been identified in chapter 2 as some of the challenges Sub-Saharan Africa face. Thus, establishing a link between how these factors both determine FDI and firm performance is very important. Theoretically, factors that influence firm performance can

also influence FDI into a host country and the presence of FDI can also impact of firm performance but this does not imply there is a simple cause and effect between them.

## **CHAPTER FIVE**

### **THEORIES OF ECONOMIC GROWTH**

#### **5.1 INTRODUCTION**

Researchers since the days of Classical economists like Adam Smith (1776), Malthus (1798), Ricardo (1817) all provided solid pillars on which modern economic growth theories were built. However, it is argued that the classic article of Ramsey (1928) was the starting point for modern growth theory. The shift and exploration in studies have been as a result of some economies attaining higher growth rates and income levels than other economies (Andersen and Babula, 2008; Liu and Premus, 2000, Zarra-Nezhad and Hosainpour, 2011). The real break in the theory to model economic growth was by Solow (1956) and Swan (1956) with the aid of the neoclassical production function due to the much significant role it has assumed to modern growth theory.

During the 1960s and 1970s, interest shifted from economic growth to areas such as inflation, unemployment and business cycles. However, in the 1980s, interests in economic growth resurfaced as a result of the concerns about the slowdown (Zarra-Nezhad and Hosainpour, 2011; Liu and Premus, 2000) and this could contributed to a better understanding of economic growth (Helpman, 2004). Thus, the determinants of economic growth during those years have been a focal point of attention for scholars and researchers. However, there has been no singular theory due to the complexity of the study and the different views with which many approach the issue. Irrespective of the lack of a singular theory of growth, the available theories aid in understanding those factors which are economic growth determinants (Petrakos et al, 2007). Some of the theories fall under two



main headings and thus are distinguished as: 1). The Neoclassical Theories, based on Solow's growth model which emphasised how important investment is to economic growth; and 2). The Endogenous Growth Theories developed by Romer and Lucas that have highlighted the importance of human capital and innovation to economic growth. However, the Myrdal's Cumulative Causation Theory and the New Economic Geography School have also provided vital contributions on economic growth since the role of non-economic factors have significant impact on economic growth.

While the Neoclassical and Endogenous growth models deal with factors like accumulation of capital, labour and technology, the Myrdal's cumulative causation theory and the New Economic Geography School refer to institutions, political and legal systems, socio-cultural factors, geography and demography as sources of growth. It is worthy to note that since there is no agreed theory on economy growth, vast majority on empirical research on growth are multi-theoretically based. That is, empirical studies analyse on numerous theoretical frameworks and study factors that are taken from numerous sources thus, prompting findings and conclusions to be contradictory (Petrakos et al, 2007). However, before the different growth theories are discussed, the nexus between FDI and economic growth will be discussed since it is a main focus of this thesis.

## **5.2 FOREIGN DIRECT INVESTMENT**

Foreign direct investment is viewed as a catalyst for economic growth mostly by developing countries, emerging economies and countries in transition (Tong and Hu, 2003). According to Sanjaya and Narula, (2004), the role MNEs play as a source of capital and technology has grown in recent times considering that other sources of capital have become more scarce or more volatile, and there has been exponential growth rate in technical advancement. Thus, FDI is viewed as a primary source of technology, know-how transfer

and economic growth. The role FDI plays in enhancing growth has been supported in several models of endogenous growth theory (Petrakos et al, 2007; Alfaro, 2003). Enjoying these benefits has prompted reactions from host governments such as liberalisation decisions to provide environments favourable for foreign investments to thrive (OECD, 2002; Popescu, 2010). Such decisions include removing the obligation to export a certain amount of what foreign firms produce inside the host country, giving up the exclusion of certain sectors from FDI and mutual agreement for a legal challenge if any disagreement should arise (Popescu, 2010). Policies aimed at attracting FDI are given significant consideration especially by developing countries where they lack the desired technological capabilities to facilitate growth. FDI helps influence technology transfer thereby reducing the technology gap between developed and industrialising economies (Tong and Hu, 2003). These reactions especially in developing countries have come with significant policy shifts from inward-looking import substitution to outward-looking, market determined strategies. The inefficiencies of import substitution, the growth of globalised production and the success of the export-oriented Asian newly industrialised economies prompted the policy shift (Sanjaya and Narula, 2004).

Applying the Solow-type standard neoclassical growth, FDI encourages the incorporation of new technologies in the production of the host economy since its technological spillover effects will offset the effects of diminishing returns to capital to keep the economy on a long-term growth run. From the endogenous growth models viewpoint, FDI promotes long run growth by augmenting the existing stock of knowledge in the host economy via manpower training, management practices, organisational arrangements and the acquisition of skills (Kotrajaras, 2010). Studies have shown that FDI adds to higher economic growth by triggering technological (productivity) spillovers to domestic firms, formation of human capital, international trade integration, enterprise development, employment, income

growth, capital inflow and a creation of competitive business environment (Popescu, 2010; OECD, 2002; Szent-Ivanyi and Vigvari, 2012).

Also, as well as purely economic benefits, FDI helps to improve the environmental and social conditions in the host country such as the transfer of cleaner technologies and the presence of more socially responsible corporate policies (OECD, 2002). Foreign direct investment can positively and negatively impact host countries and the net effects are greatly dependent on the features of the host country, the investing firm and the investment itself (Szent-Ivanyi and Vigvari, 2012). Such conditions include the rate of savings, degree of openness and the stage of technological advancement (Falki, 2009). However, the biggest argument to sustain FDI relates to positive spillovers.

Although, the empirical evidence on FDI and economic growth is ambiguous, it is nevertheless viewed as having a substantial positive impact on host country thanks to spillover effects (Katerina et al, 2004; Audi, 2011). It stimulates growth by raising total factor productivity and the efficiency of resource use in the recipient economy. Achieving this might be possible through the following channels: the linkages between FDI and foreign trade flows, the spillovers and other externalities in relation to the host country business sector, and the direct effect on structural factors in the host economy (OECD, 2002; Katerina et al, 2004). Based on these facts, it can generally be acceptable that FDI is a key ingredient for economic growth. For instance, only countries like Korea and Japan have been able to grow significantly with minimal dependence on FDI while countries like China, Malaysia, Singapore, India, Brazil, whom have recorded significant growth have heavily relied on FDI (Klein et al, 2001).

FDI also raises productivity in the host country through better worker training, management methods and deployment of advanced technology (Falki, 2009). Multinationals

can also serve as catalysts which allow host country's local firms to leapfrog stages in development. It can speed up the structural shift in the economy that enables a country to catch-up with developed countries (Klein, 2001). However, in the least developed economies FDI impacts a smaller effect on growth and thus has been attributed to the presence of threshold externalities. Such economies need to have attained a certain level of development in education, technology, infrastructure and health, financial markets in order to fully benefit from a foreign presence in their markets (OECD, 2002) or where there has been reverse flows in the form of remittances of profits especially through transfer pricing, dividend and concessions from host countries.

### **5.2.1 The Nexus between FDI and Economic Transformation (Lewis and the Investment Development Path)**

Some of the challenges facing Sub-Saharan Africa are the absence of sustained economic growth and the underemployment. These challenges can be attributed to the slow or lack of economic transformation that can facilitate the re-allocation of surplus agricultural labour to productive industrial labour (Andersson et al, 2013). According to Zhang and Ren (2005), FDI is one of the channels economic transformation can be achieved. FDI helps promote the evolution of employment structures through accelerating the transition of labour transfer from peasant agriculture to modern sector. FDI can also enhance the quality of labour force in the host economy. This economic transformation is more evident in a growing manufacturing sector especially in developing countries. Evidence shows that as a result of a growing manufacturing sector, job opportunities in the manufacturing sector in Bangladesh have increased as well as, real wages. According to Zhang et al (2014), this is consistent with the Lewis turning point and has been attributed to the recent inflows of foreign investment in the manufacturing sector in Bangladesh.

Similarly, the basic principles of the investment development path (IDP) theory have relevant links in the FDI-assisted development. Developing countries are at the initial stages of the IDP which implies that their domestic firms lack ownership advantages and competitiveness. However, according to the growth literature, inward investment can facilitate economic growth and competitiveness through moving these countries along the final stages of the IDP. This assertion is based on the fact that MNEs possess ownership specific advantages and the knowledge to exploit these advantages. Thus, the presence of MNEs can provide an effective means through which these advantages are transferred to domestic firms. In the long-run, domestic firms might be able to compete more effectively with foreign firms and penetrate foreign markets thereby, leading to sustained economic growth (Narula and Driffield, 2012). The FDI and economic transformation nexus can be achieved through some of these channels.

#### **5.2.1.1 Technological Transfer**

The benefits of FDI are not only accomplished by capital inflows to host country, but also by a technological and know how contribution. Technology transfer is argued to be the most important channel through which the presence of foreign firms may produce positive externalities in the host economy (Audi, 2011; OECD, 2002). The three main potential channels that have been identified in empirical literature through which technologies may spill are: demonstration and imitation effects, movement of employees, and backward and forward linkages (Roording and Vaal, 2010; Szent-Ivanyi and Vigvari, 2012).

#### **5.2.1.2 Demonstration and Imitation Effects**

It is referred to as the classic transmission mechanism for new products and processes (Gorg and Greenway, 2004). Multinationals indirectly provide information on the suitability

of a certain technology in the host country. Hence, local firms imitate the technology either through reverse engineering of multinational products, observing nearby firms (learning by watching), poaching employees, or through informal contracts (Aitken and Harrison, 1999; Roording and Vaal, 2010). On the other hand, in order to maintain competitiveness, competitors of multinational subsidiaries might imitate their technology, management and marketing strategies (Szent-Ivanyi and Vigvari, 2012). However, its scope depends on the complexity of the products and processes as easier products and processes are much simpler to imitate than the complex ones. Imitation is different from replication and it would be difficult if the rents accruing to multinationals wholly dissipate during these processes.

#### **5.2.1.3 Movement of Employees**

There is a possibility that diffusion may occur from labour turnover. Foreign subsidiaries generally invest in training and it is practically not possible to lock-in such resources completely (Gorg and Greenway, 2004). Hence, employees take the acquired knowledge from multinationals along with them when they move to local firms or establish their own firms because foreign firms embark more on-the-job training programmes than domestic rivals (Aitken and Harrison, 1999). Also, not only knowledge about production technique is taken along but managerial skills and business sense. By so doing, previously acquired knowledge will help in increasing the competitiveness of their new employees (Roording and Vaal, 2010; Szent-Ivanyi and Vigvari, 2012).

#### **5.2.1.4 Backward and Forward Linkages**

There is a possibility of a formal channel for technology transfer taking place between multinationals and local suppliers. The technical assistance, training and other information that are been given by multinationals help raise the competitiveness and quality of the

suppliers and their inputs (Szent-Ivanyi and Vigvari, 2012; OECD, 2002). However, since this transfer is done on purpose, it is knowledge transfer and not spillover. Nevertheless, it is not feasible that the multinationals are fully rewarded for these since local firms might use the transferred knowledge in interacting with other firms thus leading to a knowledge spillover (Roording and Vaal, 2010). These can lead to various further spillovers to the rest of the economy via demonstration effects, mobility of trained labour, enterprise development and competition effects (Sun, 2002). With the underlined channels of technology transfer illustrated, it is not definite that spillover will take place since it is not automatic. The following factors help determine the level of technology transfer that might actually happen.

### **5.3 NEOCLASSICAL GROWTH THEORIES**

The following theories broadly fall under the neo-classical theories. However, the Adam Smith Growth theory is regarded as Classical Economics.

#### **5.3.1 Adam Smith Growth Model**

In “The Nature and Causes of the Wealth of Nations”, Smith stated that the growth process is purely endogenous and emphasised the impact of capital accumulation on labour productivity (Salvadori, 2003). Smith argued that the income level of developed countries is a function of the high degree of division of labour they possess. In essence, division of labour improves labour productivity and returns, which in turn improves growth of per capita income (Kerr, 1993; Lavezzi, 2003). Smith identified 3 positive effects that may increase the productivity of workers through division of labour. These are: 1). Improvement in workers’ skills and experience as a result of their specialisation and improved dexterity (learning by doing); 2). With division of labour, time necessary to pass from one sort of work to another is saved (lower set-up costs); and 3). When workers specialise, the

possibility of designing specific machinery to facilitate the jobs presents itself (endogenous technological progress) (Salvadori, 2003; Savvides and Stengos, 2008). With these 3 underlying frameworks identified by Smith, it could be concluded that division of labour increases the stock of knowledge, aids technological advancement as well as the production of knowledge (Lavezzi, 2003).

From Smith's analysis, he talked of three factors that might hinder growth. These are insufficient supply of workers, the scantiness of nature, and an erosion of the motives for accumulation. According to Smith, shortage and likely reduction of renewable and exhaustible resources may hinder growth and human productive activity. Capital accumulation is another factor in Smith's argument which determines the growth of labour force, makes division of labour a cumulative process, raises labour wages, increases productive powers and enables a smaller amount of labour to produce a greater amount of work (Salvadori, 2003).

### **5.3.2 Harrod-Domar Growth Model**

The model implies that the rate of growth of GDP is determined jointly by the net national savings ratio and the capital-output ratio. Also, it suggests that in the absence of government, the growth rate of national income will be positively related to the saving ratio (Harrod, 1939; Domar, 1946; Todaro and Smith, 2009). The more an economy saves and invests the higher the growth rate of GDP and productive capacity (Solow, 1994; Hagemann, 2009). The model which was fully developed in 1946 possesses an economic mechanism by which more investment brings about more economic growth (Hochstein, 2006). To replace exhausted or damaged capital goods, economies must save a certain fraction of its national income. However, for an economy to experience economic growth, new investments as net additions to the capital stock are needed.



The main obstacle to the Harrod-Domar Model is the relatively low level of new capital formation in developing and poor economies. However, Chenery and Strout (1966) modified the model to include foreign sources of saving. For instance, if an economy needs to grow at a particular rate and could not generate savings and investments at the rate of national income needed, it could thus, seek to fill this “saving gap” either through foreign direct investment or foreign aid (Jackson and Pearson, 1998; Todaro and Smith, 2009). Another problem is the model’s assumption of the existence of necessary structural, institutional and attitudinal conditions such as, well trained educated workforce, quality infrastructures (transport, roads, etc.), government efficiency, availability of skilled labour, managerial competence, steady development and no economic jumps and crises (such as unemployment and inflation) of which are lacking in poor and developing economies (Suzana, 2008; Jackson and Pearson, 1998).

### **5.3.3 Big Push Development Model**

Rosenstein-Rodan (1943) attributed industrialisation to investment. He argued that if sufficient capital is available for investment, the multiplier effect will lead to further industrialisation. Murphy et al, (1989) made further contributions to the model by establishing some of the conditions under which underdeveloped countries can make a big push into industrialisation by coordinating investments across sectors without which, the development in the Rosenstein-Rodan model will remain stunted (Skott and Ros, 1997). The model argues that underdeveloped countries are caught in a poverty web, out of which they need a “Big Push” which involves huge amounts of investments that would lead to a take-off in per capita income. However, there have been increased debates that foreign aid can also complement these investments (Easterly, 2006). Also, a simple understanding of the Big Push hypothesis implies that natural resource booms can serve as an important catalyst for development in underdeveloped countries. Natural resources can create demand and

market expansion whereby, entrepreneurs will find it viable and profitable to incur the fixed cost of industrialisation (Sachs and Warner, 1999).

#### **5.3.4 Solow Growth Model**

This is a workforce model of growth theory and serves as the foundation upon which alternative and other growth models are gauged. It is also used as a comparison for the causes of economic growth among countries (Savvides and Stengos, 2008; Helpman, 2004; Dohtani, 2010). Before the Solow model, the popular questions in growth economics have to do with reasons why some countries are wealthier than others and why growth rates differ across countries. The argument to support these questions was that countries that saved and invested significantly in physical capital acquired higher growth rates. Hence, prudent countries are assumed to witness higher long term growth rates and become wealthier because they sacrifice current for future consumption (Liu and Premus, 2000).

The Solow growth model (1956) is an extension of the Harrod-Domar model and incorporates labour, capital and technology to the growth equation in order to develop a framework for long-run economic growth (Helpman, 2004; Zarra-Nezhad and Hosainpour, 2011; Reyes, 2011). The model is built on the following assumptions: 1). A production function (Cobb-Douglas) that displays diminishing returns to the factor inputs such as capital and labour and acknowledges constant returns to scale such that any increases in inputs will increase outputs by the same proportion (Liu and Premus, 2000; Petrakos et al, 2007; Savvides and Stengos, 2008); 2). Household savings is a proportionally constant share of income. The model also assumes that with diminishing returns, attaining long-run economic growth is impossible and the economy will stagnate at zero growth equilibrium. This makes the model a useful mechanism in demonstrating how economies grow or stagnate in the long-run (Savvides and Stengos, 2008).

The Solow model also argues that countries saving and investing more in physical capital would not demonstrate permanently higher growth but will nevertheless enjoy a higher per capita income in equilibrium output per person than poorer countries. Similarly, the higher the rate of population growth, the poorer a country will be (Mankiw et al, 1992). The model identified diminishing returns to production function inputs as the reason for not attaining long-term growth. Since the impediment to economic growth is diminishing returns, the Solow model overcame this by introducing exogenous technical progress. The introduction of exogenous technical progress allowed for productive inputs to accumulate over time and thus guarantee long-term economic growth, which rules out capital accumulation as the sole source of long term economic growth (Liu and Premus, 2000; Petrakos et al, 2007).

#### **5.3.5 Rybczynski Theorem**

Rybczynski (1955) investigated the effect of an increase in the quantity of a factor of production upon production, consumption and terms of trade. Based on his assumptions he argued that an increase in the endowment of one factor, for example, labour leads to an absolute expansion in the production of labour intensive goods and to an absolute reduction in the production of the commodity using relatively little of the same factor. Similarly, if factor endowments increase at different rates, the commodity intensive in the use of the fastest growing factor increases at a higher rate than either factor, and the other commodity grows if any, at a slower rate than either factor (Flam, 1979). The theorem was derived for the case of production functions on the assumption of homogeneous linearity so that no advantages or disadvantages of scale existed in either industry (Hansson and Lundahl, 1983). An increase in factor endowment is necessarily beneficial because a country can export more, thus import more and consume more. This is known as export-biased trade strategy and can deteriorate terms of trade thereby, offsetting the positive impact of the increase in factor endowment (Daniel, 2000).

Regarding the importance of increase in factor endowments on growth, it is been argued that export-biased trade strategy can play an important role in the growth process of developing countries. These arguments have been supported in the following ways. First, the growth of developing countries significantly depends on industrialisation but the level of domestic demand in most developing countries is low. Thus, pursuing export-biased trade strategies to have access to world demand and improve internal competitiveness becomes of importance. Second, regardless of the fact that export promotion policies are not overly suitable in terms of microeconomic efficiency, they are still viewed as least damaging. Third, exports not only make growth easier but also assure longer growth run because they lead to more savings, higher technological advancement and easier access to foreign loans (Colombatto, 1990). In essence, what this implies is that for a country to attain desirable growth, it should specialise in sectors it possesses comparative advantages and shift production from sectors it does not possess comparative advantages (Gerni et al, 2013).

## **5.4 ENDOGENOUS GROWTH MODELS**

The development of the endogenous growth theories ignited the importance of economic growth within the economic profession. Those regarded as the major contributors to the endogenous growth theories are Romer 1986 and Lucas 1988 (Lavezzi, 2003; Petrakos et al, 2007). The models propose ways by which growth in less developed countries could be accelerated by making maximum and efficient use of available resources, particularly human capital (Hamid and Pichler, 2011). The aims of the endogenous growth theory were to explain both growth rate differentials across countries and, a greater proportion of the growth observed and technological advancement as a form of capital accumulation. Here, capital is assumed to include both the human and physical capital. Also, to determine the

size of the rate of growth of GDP that was not explained and independently determined in the Solow model (Brzezinski and Dzielinski 2009; Todaro and Smith, 2009).

Endogenous growth theory attaches much importance on human and knowledge capital (Liu and Premus, 2000). Thus, studies by Romer (1986) and Lucas (1988) highlighted three important sources of growth namely: New Knowledge, Innovation and Public Infrastructure. These were further developed by Romer (1990), Grossman and Helpman (1991), Aghion and Howitt (1992) and Barro (1990). They all argued that policies exert considerable impact on growth in the long run in contrast to the neoclassical views (Petrakos et al, 2007). The process of knowledge accumulation for these models is assumed not to be constant and predetermined rather it is derived from the model's characteristics. The accumulation of knowledge assumes various forms such as scientific knowledge (research and development), experience gained from skills that are used at the firm level, new production techniques, management and organisational structures (Savvides and Stengos, 2008).

#### **5.4.1 Human Capital**

Human beings have long been treated as a form of capital even during the days of Adam Smith. Adam Smith considered that in addition to buildings and land improvements, valuable skills of all members of the economy should also be modelled in the idea of fixed capital. He argued that education and experience gained as labour become more specialised were another supply of human capital and the specialisation achieved as a function of the division of labour. The aftermath of the World War 2 has seen human capital taking centre stage as one of the contributors of economic growth (Savvides and Stengos, 2008). However, human capital was introduced into growth models by Lucas (1988); Romer (1990); Stokey (1988); and Mankiw et al (1992).

Human capital consists of the stock of education, knowledge and skills embodied in the labour force and it is considered a significant factor behind economic growth (Helpman, 2004; Safdari et al, 2011). It is defined as workers' acquisition of skills and know-how via training and education (Petrakos et al. 2007).

#### **5.4.2 Lucas-Uzawa Model and Human Capital Accumulation**

The pioneering contributions of Uzawa (1965) and Lucas (1988) has seen the human capital accumulation through education assuming a significant importance in the literature of economic growth theory (Chilarescu, 2010). The model attempts to formalise the role of human capital investment in the form of time spent on intentional education activities and on the job training as an important determinant in the growth process (Kunze and Torre, 2001) by making two significant assumptions which are: 1). Agents divide their time between production and schooling. Investment that boosts human capital formation in this particular model is termed schooling; and 2). Production is dependent both on individuals' inputs of physical and human capital (internal effect) and aggregate human capital (external effect). That is, agents decide to accumulate human capital or contribute to current production (Salvadori, 2003; Savvides and Stengos, 2008; Masouleh et al, 2011) and that human capital stock can be increased by allocating resources to education (Auerswald et al, 2000).

#### **5.4.3 Rebelo Growth Theory**

The Lucas Model was extended by Rebelo (1991) to consider a linear production function with the only input being capital (that is, both human and physical capital inputs) (Savvides and Stengos, 2008). The model suggests constant returns to scale and constant returns to capital (Ickes, 1996). The model shows that the marginal product of physical capital is raised by the accumulation of human capital, thereby encouraging the accumulation of physical capital (physical capital being used in the production of human capital). The

process furthermore improves the marginal product of human capital and hence, greater human capital accumulation (Duczynski, 2007).

#### **5.4.4 Romer Growth Model**

Romer (1990) argued that research and development is done by educated workers and that a greater stock of human capital does lead to higher growth as a function of its influence in increasing the capacity to innovate (Canton et al, 2005). However, he acknowledged that a share of human capital is used in the production of final goods and the rest is employed in research and development activities. The model seems not to rely on externalities in the inter-temporal accumulation of human capital as did the Lucas model to produce sustained per capita income growth nor does it assume human capital to be a non-excludable good (public good) as did the Benhabib and Spiegel model. The Romer model is viewed to have combined the Nelson-Phelps model and the Lucas model. The idea of Nelson-Phelps is that human capital is an input to the innovation process and that of Lucas is that human capital plays a part in the production of final goods (Savvides and Stengos, 2008).

#### **5.4.5 The Mankiw, Romer, and Weil Model (MRW)**

The Solow model was augmented by Mankiw, Romer and Weil (1992) to incorporate physical and human capital as well as labour inputs into the aggregate output function. Thus, the explanatory power of Solow's model was improved by explaining why the estimated influences of saving and population growth rate appear too large and there is cross-country disparity in per capita income and growth. The MRW model equally preserves the assumptions of competitive markets, exogenous technology and diminishing returns to factors inputs (Liu and Premus, 2000; Savvides and Stengos, 2008; Milbourne et al, 2003). The MRW model suggests that human capital has a direct effect on production and agrees with Solow's prediction that in the long-run steady state, the level of output per

worker in a country is positively correlated with the saving rate and negatively correlated with the rate of labour-force growth (Bernanke and Gurkaynak, 2001).

The production function demonstrates constant returns to scale in physical capital, human capital and labour inputs but diminishing returns in the reproducible inputs (physical and human capital). It further argues that the level of human capital stock, technology progress, growth of the labour force, and the portion of income allocated to physical capital accumulation are important determinants of the long-run growth of income per worker (Savvides and Stengos, 2008; Masouleh et al. 2011). However, as argued by Kalaitzidakis et al, (2001), the MRW model is rather restrictive as it assumes only secondary education in its human capital definition and that when it is widened to include other levels of education and alternative measures of human capital, the human capital in the model explains a smaller proportion of the variation in the income per capita.

## **5.5 OTHER GROWTH DETERMINANTS**

Stern (1991) argued that irrespective of the contribution of growth theories towards an understanding of the determinants of growth within economies, they have not really identified some of the crucial issues affecting growth especially in developing countries. Hence, it is necessary to give significant consideration to factors such as the role of management and organisation, the improvement of infrastructure, institutional framework, macroeconomic factors (inflation, tax rates) and non-economic factor (socio-cultural factors, demography, geographical factors) for greater understanding of growth determinants (Zarra-Nezhad and Hosainpour, 2011).



### **5.5.1 Institutional Frameworks**

These have also been identified as having important roles to play in improving economic growth. Rodrik (2000) noted 5 key institutions that impact directly on economic growth as well as influence other determinants of growth such as investment, physical and human capital, and technical changes. The 5 institutions include: property rights, regulatory institutions for macroeconomic stability, institution for social insurance and institutions of conflict management. Government refusal to fulfil terms of contracts, the rule of law, corruption, property rights, risk of expropriation and bureaucratic quality are some factors used to measure the quality of institutions (Petrakos et al, 2007).

#### **5.5.1.1 Political Environment**

This has shown to have an impact on economic growth. Such a relationship was first examined by Lipset (1959) and later by Kormendi and Meguire (1985); Grier and Tullock (1989); and Lensink (2001). Political instability would reduce certainty, thus will discourage investment and hinder economic growth. The degree of democracy is often argued to enhance economic growth, however this is seen as being too complex since democracy may both impede and boost growth depending on the various channels that it passes through. Political instability, political violence, political regimes, political and civil freedom and government stability are some of the variables used to measure the quality of an economy's political environment (Petrakos et al, 2007).

### **5.5.2 Geography**

This has been acknowledged as an important player in economic growth. The importance has increased and now has been formalised and entered into models. Some studies have used variables such as average rainfall, social quality, distances from the equator, and the

proportion of land within 100km of the coast, as proxies for geography. Some studies have shown that natural resources, climate, and landlockedness have an impact on economic growth by affecting transport costs, competitiveness, economic structure and (agricultural) productivity. On the other hand, some studies have found no effect of geography on economic growth (Petrakos et al, 2007; Rizavi et al, 2011).

### **5.5.3 Okun's Law**

Okun (1962) developed a proposition based on an inverse relationship between unemployment and GDP (Cuaresma, 2003). The proposition states that a one percentage point increase above the natural rate of unemployment (4 percent) is associated with a three percent decrease in real GDP. Over the years, this proposition withstood most empirical rigours and tests, however the current estimates of the trade-off fall into a range of two ratio one. Also, the law is not formulated on the assumption that the relationship between unemployment and real GDP has other factors remaining the same and/or being equal. That is, other factors and inputs such as size of labour force, labour hours, capital inputs, etc. will be changing at the same rate as employment (Freeman, 2000; Prachowny, 1993).

## **5.6 REVIEW OF SOME EMPIRICAL STUDIES ON THE DETERMINANTS OF ECONOMIC GROWTH**

The scholarly work that characterise the issue of economic growth has generated a substantial amount of empirical literature both in the context of developed and developing countries. This review of the empirical literature will focus on developing and emerging countries. It is worth noting that the empirical literature on growth determinants is characterised by mixed findings, which further confirms the complexity of the subject area.

The review of the empirical studies will first, discuss some of the studies between FDI and economic growth and secondly, some of the other determinants of growth. The latter will be organised according to the theories of economic growth.

### **5.6.1 FDI and Economic Growth**

Wang (2009) investigated the heterogeneous effects of different sector-level FDI inflows on host country economic growth in 12 Asian economies for the period, 1987-1997. The results showed that while FDI in the manufacturing sector had a positive impact on economic growth, FDI in non-manufacturing sectors had no significant impact. The study argued that aggregating different types of FDI inflows underestimates the exact impact of FDI on the economic growth of host countries. Kotrajaras (2010) examined the effect of FDI on economic growth in 15 East Asian countries from 1990-2009. The results revealed that FDI had a positive relationship with economic growth only in high and middle income countries but not in low income countries. This was attributed to the lack of appropriate economic conditions. Furthermore, Ayanwale (2007) explored the empirical relationship between FDI and economic growth in Nigeria from 1970-2002. The study produced mixed findings. The overall effect of FDI on economic growth is not significant but when disaggregated, FDI in the communication sector had the highest potential for economic growth compared to that of the oil sector. However, the manufacturing sector FDI was negatively related to economic growth. These findings were ascribed to the poor business environment in Nigeria, the small contribution of the manufacturing sector to the overall economy, and the industrial structure of the economy not being complementary and trade enhancing.

Bilel and Mouldi (2011) analysed the relationship between financial liberalisation, FDI and economic growth in 6 MENA countries from 1986-2010. Amongst other findings, FDI

had a positive and significant impact on economic growth due to the fact that it created value and reduced unemployment in the sample of countries studied. Ekanayake and Ledgerwood (2010) found a positive relationship between FDI and economic growth when they investigated the effects of FDI on economic growth in 85 developing countries for the period, 1980-2007. However, the study did not suggest plausible explanations for this relationship. Conversely, Audi (2011) examined the impact of FDI on economic growth in the Southern Mediterranean countries from 1982-2009 and found a negative relationship. This was due to the fact that FDI flows in those countries crowded out domestic investment and were characterised by relative instability or volatility. Louzi and Abadi (2011) examined the relationship between FDI and GDP in Jordan over the period, 1990-2009. The results showed that FDI flows in Jordan did not exert an independent influence on economic growth as the causation was found to be from economic growth to FDI.

### **5.6.2 Neoclassical Growth Theories**

Moreira (2005) examined the impact of foreign aid on the economic growth of a panel of 48 developing countries during the period, 1970-1998. The results revealed a positive relationship between foreign aid and economic growth and in terms of magnitude, foreign aid had less effect on economic growth in the short-run than in the long run. According to the study the effectiveness of the foreign aid could be attributed to the good policies that associate foreign aid. Fayissa and El-Kaissy (1999) analysed the impact of foreign aid on economic growth in 80 developing countries from 1971-1990 and found that foreign aid had a positive impact on economic growth. This was attributed to the fact that foreign aid accelerates economic growth by supplementing the domestic capital formation of those countries. Islam (1992) tested the impact of foreign aid on the economic growth of Bangladesh during the period, 1972-1988 and found that the aggregate form of foreign aid

had no significant relationship with economic growth. However, when foreign aid was decomposed into various components, the results showed that loans were more effective than grants and food aid was more effective than commodity or project aid. To support these findings the following plausible explanations were provided. First, the poor performance of grants could be due to some degree of collinearity between the explanatory variables. Second, generally, loans are more effectively utilised than grants considering that they are repayable. Third, in relation to the second reason, government officials might have allowed different administrative slacks and probably tolerated greater degree of corruption in the use of grants. Fourth, the variables utilised for the analyses might have had a distributed lag effect on economic growth which were not captured by the model.

Similarly, Ekanayake and Chatrna (2010) employed a panel of 85 developing countries in Asia, Africa, Latin America, and the Caribbean during the period, 1980-2007 to investigate the effects of foreign aid on economic growth. The results showed that the impact of foreign aid on growth was insignificant even after the analyses were carried out separately on each region. While the relationships between foreign aid and economic growth in Asia, Latin America and Caribbean countries were negatively insignificant the relationship between foreign aid and economic growth in Africa was positively insignificant. Although, no plausible explanations were provided for these mixed findings besides the fact that the positive insignificant relationship between foreign aid and economic growth was linked to Africa being the largest recipient of foreign aid than any other region.

Tang and Chua (2012) re-investigated the savings-growth nexus for the Malaysian economy during the period, 1971-2008 and found that both savings-led growth and growth-led savings hypotheses are obtainable for the Malaysian economy. However, the savings-led growth hypothesis was relatively stable when further tests were applied. They attributed this

relationship to the fact that savings have been utilised efficiently by productive sectors. Sajid and Sarfaraz (2008) analysed the causal relationship between savings and output in Pakistan for the time period, 1973-2003. The analyses showed unidirectional long run causality from public savings to both measures of output (GNP and GDP) and from private savings to GNP. Also, there was mutual short run causality from level of output (GNP) to national and domestic savings; unidirectional short run causality from national savings to GDP. Thus, in the long run, their findings are in favour of the fundamental point of view that economic growth depends on savings and in the short run, that savings depend on economic growth. Odhiambo (2009) investigated the direction of causality between savings and economic growth in South Africa during the period, 1950-2005. The results showed that there was a bi-directional causality between savings and economic growth in the short run and a unidirectional causal flow from economic growth to savings in the long run. Thus, what the findings imply is that although in the short run both savings and economic growth drive each other, in the long run, it is the growth of the real sector that drives up the accumulation of savings. Abu (2010) analysed the relationship between savings and economic growth in Nigeria from 1970-2007 and found that causality runs from economic growth to savings. Hence, according to the study, the findings reject the claim by Solow that savings cause economic growth in favour of the Keynesian theory that higher economic growth causes higher savings.

Lee and Huang (2002) explored the causal relationship between export growth and economic growth in 5 East Asian countries over time periods ranging from 1961-2000. They found evidence of export-led growth and attributed this relationship to the outwardly-oriented development strategy these Asian countries adopted in the early 1960s. Similarly, Rahmaddi and Ichihashi (2011) re-examined the exports and economic growth nexus in Indonesia from 1971-2008 and concluded a bi-directional causal relationship. However, the

direction was from export-led-growth in the long-run and growth-led-export in the short-run. This bi-directional relationship is due to the flexibility of the Indonesian domestic market where producers can easily shift production from domestic market to foreign market and vice versa. Rangasamy (2009) tested the export-led-growth hypothesis for South Africa from 1975-2007 and found a unidirectional causality running from exports to economic growth. According to the study, this export-led-growth relation is due to the improved market access in South Africa, and the trade relations policies South Africa has pursued with emerging economies and the European Union. Mishra (2011) analysed the relationship between exports and economic growth in India from 1970-2009 and found a unidirectional relationship from economic growth to export. That is, the export-led-growth was rejected in favour of the growth-led-export. These findings were attributed to the fact that India's economy is mostly dependent on its large domestic market as external trade only accounts for 20 percent of India's GDP.

Papyrakis and Gerlagh (2004) employed a panel of 39 countries during the period, 1975-1996 to examine the direct and indirect effects of natural resources on economic growth. The findings indicated that natural resource wealth increased economic growth however, under certain conditions. A natural resource economy that is characterised by corruption, poor investment, protectionist measures, deteriorating trade terms, and low education levels will have the over effect of natural resource abundance on economic growth to be strongly negative. Brunnschweiler (2008) re-examined the effects of natural resource abundance on the economic growth of a panel of 100 countries from 1970-2000 and found a positive relationship between natural resources and economic growth. Furthermore, this relationship was even more robust when institutional quality was controlled for. These findings were thus, ascribed to the boon for economic performance that is associated with natural resource abundance. Ogunleye (2008) examined the long-run relationship between the huge oil

revenue and some development indicators. Amongst other findings, the study showed that oil revenue if properly invested and efficiently used will result in economic growth. The efficiency in the use of oil revenue will however depend on control of corruption, transparency, accountability, and equitable resource distribution. Behbudi et al, (2010) investigated the relationship between resource abundance, human capital and economic growth in a panel of petroleum exporting countries for the period 1970-2004 and found that natural resources had a negative impact on economic growth. This negative relationship was attributed to low levels of human capital and the wastefulness of natural resource wealth. Countries that possess high levels of human capital was able to offset the negative effect of natural resources on economic growth thus, implying that low levels of human capital serve as a transmission mechanism of the natural resource curse.

Enimola (2010) evaluated the impact of infrastructure (energy consumption, transport and communication) on the economic growth of Nigeria over the period, 1980-2006. The results revealed a positive relationship between infrastructure and economic growth however, in the long-run, there will be a steady rate of decline in this relationship. This decline was attributed to the low levels of public expenditure on infrastructure, maintenance and modernisation in Nigeria. Sojoodi et al, (2012) analysed the roles of infrastructure on the economic growth of Iran from 1985-2008 and found that transportation and communication infrastructure had a positive impact on economic growth however, electricity production had an insignificant impact. These findings were supported due to high subsidies in energy consumption and production, and the importance of communication and information technology in facilitating trade in Iran. Demurger (2001) investigated the links between infrastructure investment and economic growth by employing a panel of 24 Chinese provinces over the period, 1985-1998. The results showed that infrastructure endowment significantly accounted for the observed differences in growth performance across



provinces. Lack of adequate transportation and telecommunication infrastructure were found to constrain growth potential and increase the burden of isolation in certain provinces. Fedderke et al, (2006) examined the relationship between infrastructure and economic growth in South Africa and found that investment in infrastructure contributed to economic growth both directly and indirectly. According to the study, the results are supportive of the South Africa's government renewed interest in public sector investment, and the positive relationship between infrastructure quality and marginal productivity of capital.

Odior (2011) evaluated the impact of government expenditure on economic growth in Nigeria from 2004 to the long-run 2015. The results showed that government expenditure contributed positively to economic growth due to the reallocation of government expenditure from unproductive areas into education services. Kweka and Morrissey (2000) investigated the impact of public expenditures on economic growth in Tanzania for the period, 1965-1996. The investigation revealed that increased physical expenditure impacted negatively on economic growth; consumption expenditure had a positive relationship with economic growth; and expenditure on human capital was insignificantly related to economic growth. The study argued that although public expenditure in Tanzania has not been productive, it is still not growth-reducing because of the following plausible reasons. Firstly, some of the effects of government expenditure would have very long lags and secondly, unfavourable macroeconomic conditions could undermine the productivity of investments. Samimi and Habibian (2011) estimated the impact of government expenditure on economic growth in 18 developing countries from 1990-2007 and found a negative relationship. Although, the study gave no reasons as to the negative relationship between government expenditures and economic growth it nevertheless suggested a downside in government expenditure in those countries.

### **5.6.3 Endogenous Growth Theories**

Vinod and Kaushik (2007) in their study of the relationship between human capital and economic growth in 18 developing countries from 1982-2001, suggested that the increased spending on education by the World Bank, international agencies, and the host countries is responsible for this relationship between literacy rates and economic growth. Tsai et al, (2010) employed a sample of 24 developed and 36 developing countries to explain the differential rates of economic growth among countries from 1999-2006. The results showed that one of the measures of human capital (secondary education) was a greater contributor to economic growth in developing countries when compared to developed countries. They attributed this to the fact that since the secondary education system in developed countries is fully established, the marginal rate of return for secondary education will most likely be insignificant.

Haldar and Mallik (2010) examined the time series behaviour of investment in human capital, physical capital and economic growth in India for the period, 1960-2006. The findings showed that investment in human capital and stock of human capital measured by enrolment rate in primary education had a significant long-run positive impact on economic growth. These were attributed to the Indian government investment education policy (IEP), and the stronger incentives for Indians to invest in developing their skills and improving labour force productivity. Zhang and Zhuang (2011) investigated the effect of the composition of human capital on China's economic growth from 1997-2006. The results showed that tertiary education played a more significant role on economic growth than primary and secondary education. Also, the more developed provinces benefited more from tertiary education, while the underdeveloped provinces benefited more from primary and

secondary education. These regional disparities in the findings were ascribed to the little investments in higher educational levels in the poor provinces of China.

#### **5.6.4 Other Growth Determinants**

Aisen and Veiga (2011) investigated the impact of political instability on economic growth in 169 countries during the period, 1960-2004. The findings showed that political instability negatively affected economic growth by eroding productivity growth, physical capital, and human capital. A study by Jong-A-Pin (2009) revealed that out of the different measures of political instability (violence, mass civil protest, instability within political regime, and instability of the political regime) only political regime has a negative significant impact on economic growth with the rest exhibiting an insignificant relationship with economic growth. Furthermore, even when formal institutions that reflect property rights are controlled for, the instability of the political regime remained significant. According to the study, a plausible explanation is that the security of property rights reflects *de jure* uncertainty while the instability of political regime captures *de facto* uncertainty. Younis et al (2008) evaluated the effects of various measures of political instability on economic growth in 10 Asian countries from 1990-2005. The results revealed that political stability had a positive relationship with economic growth and this was ascribed to the increased capital accumulation, human capital, and economic freedom that come with political stability.

Qureshi et al, (2010) constructed a political index with 7 different measures of political instability to examine the impact of political instability on economic growth in Pakistan from 1971-2008. The results indicated that throughout the analyses, political instability impeded most areas of the economy. This was as a result of poor history of political stability, volatility in development pattern, and weak political policies that characterise

Pakistan. Selvarathinam (2007) employed a sample of 70 developing countries from 2000-2004 to investigate whether free economic and political policies promote economic growth. The findings revealed that political freedom and economic freedom had negative relationships with economic growth. The study argued that good conditions and realities of developing countries for functioning free democratic and economic policies completely differ from developed countries and thus, instead of copying the Western system verbatim, economic and political policies should be based on the reality of the people.

Gyimah-Brempong (2002) employed a panel of 21 African countries to ascertain the effects of corruption on the economic growth of per capita income and income distribution from 1993-1999. The results showed that corruption decreases economic growth and per capita income and this was attributed to the inappropriate institutional reforms of the African countries under study. Choudhary (2010) analysed the impact of corruption on economic growth in Indian states and Union Territories for the period, 2000-2005. The analyses revealed that corruption had a negative impact on economic in India and this was ascribed to the hostile impact of corruption on investment in India and its Union Territories. Adenike (2013) investigated the impact of corruption on economic growth in Nigeria from 1980-2009 and found a negative relationship. This negative relationship according to the study is due to the negative effect corruption has on foreign investments, expenditure on education, and capital expenditure. Mo (2001) evaluated the role of corruption on economic growth in 49 countries over different time periods ranging from, 1970-1996 and found that corruption negatively impacted on economic growth. The negative impact of corruption on economic growth is through increases in political instability, reduction in the level of human capital, and little growth in private investment. Furthermore, corruption was found to be most prevalent where other forms of institutional inefficiency such as bureaucratic red tape, and weak legislative and judicial systems are present.

Ezeabasili et al, (2011) examined the relationship between Nigeria's external debt and economic growth from 1975-2006 and found that external debt had a negative relationship with economic growth. They argued that the reason for this negative relationship is that external debt repayment and servicing reduce foreign exchange earnings and the resources available for investments. Atique and Malik (2012) analysed the impact of domestic and external debt on the economic growth of Pakistan over the period, 1980-2010 and found that both domestic and external debt stocks had negative relationships with economic growth. However, the negative impact of external debt on economic growth is more when compared to domestic debt. Some of the reasons identified by the study for these negative relationships are the constant budget deficit and loss of foreign exchange reserves debt servicing payments cause. Daud et al, (2013) investigated the effect of external debt to Malaysia's economic growth during the period, 1991-2009 however, the results revealed mixed findings. External debt had a positive impact on economic growth up to a particular threshold after which, any additional debt will negatively impact on economic growth. Also, external debt servicing had a negative impact on economic growth. Plausible reasons provided to support these mixed findings are: 1). external debt at moderate levels help improve Malaysia's investment rate; 2). debt servicing crowds out investment opportunities in Malaysia; and 3). excess external debt might not be efficiently allocated for investment purposes and can also squeeze investment through debt repayment. Similarly, Pattillo et al, (2011) evaluated the impact of external debt on a panel of 93 developing countries over the period, 1969-1998. The results revealed a non-linear, hump-shaped relationship between external debt and economic growth. If a country with average indebtedness doubles its debt ratio, economic growth will be reduced by a third to half a percentage point. Also, the average impact of debt on economic growth becomes negative for debt levels above 160-170 percent of exports and 30-40% of GDP. To justify this non-linear relationship, the study

argued that in the presence of high indebtedness, investment expenditure may not be efficiently allocated to productive activities and may also limit innovation thus, leading to lower quality of investment.

Umoru (2013) examined the impact of employment in Nigeria over the period, 1975-2012 and found that employment exerted a positive influence on economic growth in Nigeria both in the short and long-run. This positive impact was attributed to the intensity of recent employment programmes the Nigerian government has pursued. Meidani (2011) tested the dynamic effects of unemployment on economic growth in Iran from 1971-2006 and found that unemployment had a negative and significant relationship with economic growth. This finding was attributed to the brain drain in Iran as a result of high unemployment. Castells-Quintana and Royuela (2012) investigated the relationship between unemployment, income inequality and economic growth on a panel of 48 countries over the period, 1990-2007. The results showed that unemployment had an insignificant relationship with economic growth however, when interacted with inequality the relationship was negatively significant to economic growth. To support these findings, the study argued that high and persistent unemployment most probably leads to increasing inequality which then erodes economic growth capacities. Kreishan (2011) investigated the relationship between unemployment and economic growth in Jordan over the period, 1970-2008 and concluded that the structural nature of unemployment in Jordan is responsible for the insignificant relationship. That is, unemployment in Jordan is as a result of people not possessing the necessary skills and qualifications to do the available jobs hence, such unemployment would not have any significant effect on economic growth.

**Table 12 Summary of Some of the Empirical Studies on the Determinants of Economic Growth**

Authors	Purpose/Methodology	Findings
<b>Foreign Direct Investment</b>		
<i>Foreign Direct Investment and Economic Growth</i>		
Ayanwale, 2007. FDI and Economic Growth: Evidence from Nigeria. African Economic Research Consortium Research Paper No. 165	The paper examines the empirical relationship between non-extractive FDI and economic growth in Nigeria for the period 1970-2002 using ordinary least squares and the 2SLS method.	The paper shows that FDI contributes positively to Nigeria's economy with the communication sector showing the highest potential to grow the economy.
Wang, 2009. Manufacturing FDI and Economic Growth: Evidence from Asian Economies. Applied Economics: 41(8)	Using panel regression estimations the research investigated the heterogeneous effects of different sector-level FDI inflows on host country's economic growth. Data employed are from 12 Asian economies for the period 1987-1997	The research indicated that FDI in manufacturing sector has a significant and positive effect on economic growth, whereas FDI inflows in nonmanufacturing sectors do not play a significant role in enhancing economic growth.
Bilel and Mouldi, 2011. The Relationship Between Financial Liberalisation, FDI and Economic Growth: An Empirical Test for MENA Countries. Economics and Finance Review: 1(10)	The study analyses the relationship between financial liberalisation, FDI and economic growth in 6 MENA countries for the period 1986-2010 employing a panel data analysis.	The study reveals a positive and significant association between FDI and GDP.
Kotrajaras, 2010. Foreign Direct Investment and Economic Growth: A Comparative Study Among East Asian Countries. Applied Economics Journal: 17(2)	The empirical research examined the effect of FDI on the economic growth of 15 East Asian countries analytically classified by the economic conditions for the period 1990-2009. The panel cointegration analysis was applied in the endogenous growth model in order to estimate the impacts of FDI.	The results showed that FDI has a positive relationship with economic growth only in high and middle income countries but no positive relationship between FDI and economic growth in low income countries.
Ekanayake and Ledgerwood, 2010. How Does Foreign Direct Investment Affect Growth in Developing Countries? An Empirical Investigation. International Journal of Business and Finance Research: 4(3)	The study used panel least squares estimation to analyse the effects of FDI on the economic growth of 85 developing countries for the period 1980-2007.	The results suggested that FDI has a positive and significant effect on economic growth.
Audi, 2011. Is Foreign Direct Investment a Cure for Economic Growth in Developing Countries? Structural Model Estimation Applied to the Case of the South Shore Mediterranean Countries. Journal of International Business and Economics: 11(4)	The study employs basic econometrics model, the linear model to investigate the effect of FDI on growth in countries in the Southern Mediterranean for the period 1982-2009.	The study shows that FDI has a negative effect on economic growth.

Louzi and Abadi, 2011. The Impact of Foreign Direct Investment on Economic Growth in Jordan. International Journal of Research and Reviews in Applied Sciences: 8(2)	The paper examined the relationship between FDI and GDP in Jordan using a time series data from 1990 to 2009. An econometric framework of cointegration and error correction mechanism was employed for the analysis.	The results showed that FDI flows in the country do not exert an independent influence on economic growth.
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## Neoclassical Growth Theories

### *Savings, government spending, and economic growth*

Tang and Chua, 2012. The Savings-growth Nexus for the Malaysian Economy: A View Through Rolling Sub-Samples. Applied Economics: 44(32)	The study re-investigated the savings-growth nexus for the Malaysian economy for the period 1971-2008 using the bounds testing approach to cointegration and TYDL Granger causality test.	The study revealed that both savings-led growth and growth-led savings hypothesis are obtainable for the Malaysian economy. However, the savings-led growth hypothesis was relatively stable when the TYDL Granger causality test was employed.
Abu, 2010. Saving-Economic Growth Nexus in Nigeria, 1970-2007: Granger causality and Co-Integration Analysis. Review of Economics and Business Studies: 3(1)	The paper employed the granger causality and co-integration techniques to investigate the relationship between saving rate and economic growth in Nigeria for the period 1970-2007.	The results showed causality runs from economic growth to saving growth. Hence, rejecting the claim by Solow that savings causes economic growth in favour of the Keynesian theory that higher economic growth causes higher saving growth.
Sajid and Sarfaraz, 2008. Savings and Economic Growth in Pakistan: An Issue of Causality. Pakistan Economic and Social Review: 46(1)	The analysis uses cointegration and vector error correction techniques to investigate the causal relationship between savings and output in Pakistan for the period 1973-2003.	The analysis suggests unidirectional long run causality from public savings to both measures of output (GNP and GDP) and from private saving to GNP. Also, there is a mutual short run causality between domestic savings and GDP; unidirectional short run causality from level of output (GNP) to national and domestic savings; unidirectional short run causality from national savings to GDP.
Odhiambo, 2009. Savings and Economic Growth in South Africa: A Multivariate Causality Test. Journal of Policy Modelling: 31(5)	The investigation used the cointegration-based error-correction mechanism to ascertain the direction of causality between savings and economic growth in South Africa during the period 1950-2005	The empirical results showed that there is a bi-directional causality between savings and economic growth in the short run and a unidirectional causal flow from economic growth to savings in the long run.
Kweka and Morrissey, 2000. Government Spending and Economic Growth in Tanzania, 1965-1996. Centre for Research in Economic Development and International Trade Research Paper No. 00/6	The study investigates the impact of public expenditures on economic growth using time series data on Tanzania for the period 1965-1996 and the Engle and Granger approach.	The analysis suggests the increased physical expenditure impacts negatively on growth; consumption expenditure relates positively to growth; and expenditure on human capital is insignificant to growth.
Odior, 2011. Government Spending on Education, Economic Growth and Long Waves in CGE Micro-Simulation Analysis: The Case of Nigeria. British Journal of Economics, Finance and Management Sciences: 1(2)	The paper evaluated the impact of government expenditure on education on economic growth in Nigeria using integrated sequential dynamic computable general equilibrium (CGE) model from 2004 to the long-run 2015.	The results showed that the re-allocation of government expenditure to education sector is significant in explaining economic growth in Nigeria.



Samimi and Habibian, 2011. Government Size and Economic Growth: New Evidence from Some Developing Countries. Journal of Basic and Applied Scientific Research. 1(2)	The study was based on panel data regressions to estimate the impact of government expenditure on growth in 18 developing countries for the period 1990-2007.	The analysis indicated a negative relationship between government consumption expenditures and economic growth.
Saad and Kalakech, 2009. The Nature of Government Expenditure and its Impact on Sustainable Economic Growth. Middle Eastern Finance and Economics: Issue 4	They used a multivariate Cointegration analysis to examine the effect of government expenditure in Lebanon 1962-2007	Their results revealed that government spending on education is positive on growth in the long run and negative in the short run; government spending on defense and health are both negative on growth in long run and insignificant in the short run; government spending on agriculture is insignificant on growth in both the long and short run.

## Endogenous Growth Theories

### *Human Capital and Economic Growth*

Haldar and Mallik, 2010. Does Human Capital Cause Economic Growth? A Case Study of India. International Journal of Economic and Applied Research: 3(1)	The study examined the time series behaviour of investment in human capital, physical capital and growth in a cointegration framework in India for the period 1960 -2006.	The study found that human capital investment and stock of human capital measured by primary gross enrolment rate have a significant long-run effect on per capital GNP.
Vinod and Kaushik, 2007. Human Capital and Economic Growth: Evidence from Developing Countries. The American Economist: 51(1)	They used time series and panel regressions for data on a group of 18 large developing countries for the period 1982-2001 to determine the relationship between human capital	Their results showed that percentage of literate adults as a proxy for human capital has a statistically significant impact on economic growth.
Zhang and Zhuang, 2011. The Composition of Human Capital and Economic Growth: Evidence from China Using Dynamic Panel Data Analysis. China Economic Review: 22(1)	The empirical research investigates the effect of the composition of human capital on China's economic growth for the period 1997-2006. It employs a Generalised Methods of Moments on a panel data set.	The research reveals that tertiary education plays a significant role than primary and secondary education on economic growth in China. Also, the more developed provinces benefit more from tertiary education, while underdeveloped provinces benefit more from primary and secondary education.
Tsai et al., 2010, Human Capital Composition and Economic Growth Social Indicators Research: 99(1)	The paper constructs measures of human capital composition using 5 fields of study 24 developed and 36 developing countries. Each measure represents the number of graduates in the respective field as a percentage of all graduates. That is, agricultural human capital, high-tech human capital, business and service human capital, humanities human capital and welfare human capital. It then uses the OLS and System-Generalised Method of Moments (GMM) models to explain differential rates of growth among the	The results suggest secondary education is a greater contributor to economic growth in developing countries than it is in developed countries. Tertiary education plays an important in economic growth for both developing and developed countries. However, high-tech human capital is significantly positively correlated with economic growth.

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## Other Growth Theories

### *Political Stability, Corruption, and Economic Growth*

Aisen and Veiga, 2011. How Does Political Instability Affect Economic Growth? IMF Working Paper 11/12	Using the system-GMM regression estimations for linear dynamic panel data models on 169 countries for the period 1960-2004, the study determined the impact of political instability on economic growth	The findings suggest that higher levels of political instability impede growth rates of GDP per capita. Also, it affects growth by lowering the rates of productivity growth and physical/human capital.
Younis et al., 2008. Political Stability and Economic Growth in Asia. American Journal of Applied Sciences: 5(3)	The empirical study investigates the effects of various measures of political instability on economic growth in 10 Asian countries for the period 1990-2005 using ordinary least square method.	The analysis reveals that political stability leads to economic growth. A 32.35 score increase of the index of political stability leads to one percent increase in growth.
Qureshi et al., 2010. Political Instability and Economic Development: Pakistan Time-Series Analysis. International Research Journal of Finance and Economics: Issue 56	A political instability index was constructed with 7 different measures of political instability using Principal Component Technique. Then, an OLS technique was employed to test its effect on growth in Pakistan for the period 1971-2008.	The results indicate that throughout the analysis, political instability impedes on most areas of the economy.
Jong-A-Pin, 2009. On the Measurement of Political Instability and its Impact on Economic Growth. European Journal of Political Economy: 25(1)	The paper employs four dimensions of political instability (politically motivated violence, mass civil protest, instability within the political regime and instability of the political regime) to ascertain the causal impact of political instability on economic growth. The analysis was performed on a panel of 90 countries over the period 1970-2003 using a dynamic panel system Generalised Method of Moments model.	The findings show that only the instability of political regime has a significant negative effect on growth. Though, the other 3 dimensions have insignificant effects on growth.
Sayan S., 2009, Economic Performance in the Middle East and North Africa: Institutions, Corruption and Reform. Routledge Publishers	The research investigated the impact of corruption on economic development measured by per capita GDP for MENA and Latin American Countries for the period 1993-2003 employing both the Fixed and Random effects model.	The findings showed that corruption was associated with improved economic growth in MENA countries but no significant effect on growth in Latin American countries.
Gyimah-Brempong, 2002. Corruption, Economic Growth, and Income Inequality in Africa. Economics of Governance: Vol. 3	The empirical research employs dynamic panel estimators on a panel data of 21 African countries to ascertain the effects of corruption on the growth rate of per capita income and income distribution for the period 1993-1999.	The results show that corruption decreases growth. A one unit increase in corruption index decreases the growth rate of GDP by between 0.75 and 0.9 percentage points and between 0.39 and 0.41 for per capita income.
Aliyu and Elijah, 2008. Corruption and Economic Growth in Nigeria: 1986-2007. MPRA Paper No. 12504	Their study used a Barro-type endogenous growth model to investigate the impact of corruption of economic growth in Nigeria	They found that corruption has a negative significant effect on economic growth.

	for the period 1986-2007.	
Choudhary, 2010. The Impact of Corruption on Growth: An Empirical Analysis in the Indian Context. Asian Journal of Public Affairs: 3(2)	The methodology used fixed effects specifications to analyse the impact of corruption on growth in Indian States and Union Territories for the period 2000-2005. Data on actual convictions and crimes registered under the prevention of Corruption Act was a measure for corruption.	The analysis revealed evidence that corruption has had a significant negative impact on economic growth in India and the hostile impact on investment is a possible channel through which this impact takes place.

## 5.7 CONCLUSION

As the literature suggests, there have been a lot of research both theory and empirical to ascertain factors which contribute to growth. Nevertheless, the complexity and nature of the debate have yielded no unified conclusion as to which theory best fits the answer in terms of countries seeking positive significant changes in their growth rates. While one school of thought advocates the importance of economic transformation, investment, capital accumulation, labour and technology, another advocates for the importance of human capital and innovation to economic growth. However, the contributions of non-economic factors and institutions such as political and legal systems, socio-cultural factors, geography, etc. are significant and should not be neglected in studies on economic growth.

Foreign direct investment has gained immense importance over the last few decades and it is thus argued to be one of the factors with benefits that encompass most the other determinants economic growth. Factors such as investment, capital accumulation, technology, human capital, innovations, research and development, etc. are some channels through which FDI can also have impact on economic growth. Also, foreign direct investment can indirectly impact positively on non-economic determinants of economic

growth as countries wanting to attract foreign direct investment may improve the quality of their institutions, governance, and business environment.

Irrespective of the enormous studies in the growth literature, there appears to huge gap in understanding the latter growth trajectory of Sub-Saharan Africa. As identified in chapter two, the economic growth trajectory of Sub-Saharan Africa is sub-divided into three. That is, the post-independence positive growth rates, 20 years of economic decline from 1975 to 1995, and the 1996 onwards period of recovery. Thus, identifying if FDI is one of the significant determinants of this onward growth recovery will be an immense contribution to the growth literature of Sub-Saharan Africa. Also, since economic transformation is one of the ways through which the region can achieve sustained economic growth, examining if FDI is an important determinant of growth will contribute to the FDI and economic transformation nexus.

# **CHAPTER SIX**

## **FOREIGN DIRECT INVESTMENT**

### **DATA AND RESULTS**

#### **6.1 INTRODUCTION**

This chapter combines the analysis on the determinants of foreign direct investment (FDI) into Sub-Saharan Africa (SSA). The first investigates the determinants of FDI into the least recipient regions of FDI (that is, SSA and the Middle East and North Africa, MENA). The second investigates how the different hypotheses under the theories of FDI explain FDI activities in SSA. All the investigations were carried out empirically using panel data techniques on different sample sizes and time periods. The hypotheses that were tested, methodology employed, variables used, and the sample sizes will all be explained in detail preceding each of the analyses. The major findings from indicate that although SSA and MENA are the least recipient regions, they are behaviourally and structurally different in terms of their FDI determinants and when considered separately, SSA performed poorly compared to MENA. Also, that return on capital, infrastructure development, market size, control of corruption, trade openness, strategic assets and human capital best explain FDI activities in SSA. Surprising is the insignificant relationship between FDI and natural resources.

## **6.2 FDI DETERMINANTS IN THE LEAST RECIPIENT REGIONS**

### **6.2.1 OVERVIEW OF ANALYSIS**

This part uses panel data estimation on a sample of 20 Sub-Saharan African (SSA) and 11 Middle East and North African Countries (MENA) to determine FDI inflows. The Findings suggest that trade openness, infrastructure, return on capital, basic literacy skills, availability of labour and control of corruption positively influence FDI inflows. Surprisingly, natural resource endowments do not significantly influence FDI while the exchange rate and cost advantages that host competitors benefit through credit availability negatively affects FDI. A further examination of the insignificant relationship between natural resource endowments and FDI find that these regions have not yet attained the minimum required threshold in terms of political stability and openness. In addition, the null hypothesis that both regions are not behaviourally and structurally different in terms of FDI determinants was rejected. When considered separately, SSA performed poorly compared with the MENA countries.

### **6.2.2 HYPOTHESIS DEVELOPMENT**

The framework for the hypotheses was developed from the OLI paradigm although with more emphasis on locational factors (see section 3.3.1). The literature on the location-specific variables of FDI suggests that infrastructure, human capital, natural resources, market size, exchange rate, country risks and production costs influence the patterns of FDI inflows (Tsen, 2005).

#### **6.2.2.1 Market size/growth and FDI inflows**

The size of the market can be measured by GDP growth rate or GDP per capita. It is expected that a positive relationship will exist between market size and FDI inflows especially if FDIs target market-seeking activities (Agrawal and Ranjan, 2011). This study hypothesises a positive relationship because during the past decade, developing countries have shown signs of improvement and growth in markets, including increased demand, the prospects for economies of scale in production and improved economic conditions, all of which are incentives for foreign investors (Majeed and Ahmad, 2008). Also, if developing countries follow the investment development (IDP) path then any increases in the size of domestic market will positively influence FDI inflows.

***H1. Market seeking: Larger market size/growth is positively associated with FDI inflows***

#### **6.2.2.2 Human Capital and FDI inflows**

An educated workforce has been recognised as an important determinant of FDI especially when firms are efficiency seeking. Srinivasan (2011) argued that a higher level of education in the workforce can lead to higher flows of FDI. Over the last few years, great attention has been given to education as it is one of the central tenets of the millennium development goals. Also, quality of labour is important and raising the levels of human capital through education leads to skill acquisition

***H2. Human capital accumulation has a positive impact on FDI inflows***

#### **6.2.2.3 Natural Resources and FDI inflows**

The availability of natural resources is an incentive for FDI, especially in the case of developing countries (Narula and Wakelin, 1998), with low levels of efficiency in domestic

production and where the use of strategic assets is characteristically low. One argument is that, unlike measures of market size, natural resources serve both home and international markets (Kinoshita and Campos, 2002).

***H3. Resource seeking: FDI is positively related to the abundance of natural resources***

#### **6.2.2.4 Infrastructure development and FDI inflows**

Available infrastructure increases productivity and thus the return on investment. Therefore a positive relationship between infrastructure and FDI is expected (Asiedu, 2002; Akin, 2009). However, the quality of infrastructure in these countries is highly variable and a quality adjusted measure would be preferred. Unfortunately, data constraints limit the construction of this variable and in common with the literature, infrastructure availability and or development is used.

***H4. Infrastructure development is a positive determinant of FDI inflows***

#### **6.2.2.5 Trade Liberalisation and FDI inflows**

Countries with greater levels of trade openness and with more links to the world economy attract foreign capital and welcome overseas investment (Srinivasan, 2011; Owusu-Antwi, 2012). The theoretical view of this relationship rests in the transaction cost theory. That is, trade openness suggests the degree of comparative advantage of a country in terms of investment and it is likely to influence international capital flows since repatriating capital as well as profits would not be a major problem (Adhikary, 2011).

***H5. Trade liberalisation has a positive impact on FDI inflows***



#### **6.2.2.6 Country risk (corruption and political instability) and FDI inflows**

The previous five testable hypotheses considered positive factors in the growth of FDI inflows. However, considerable barriers remain. Corruption impedes investment directly and indirectly (Habib and Zurawicki; Al-Sadig, 2009) although the relationship between political instability and FDI is not unresolved (Asiedu, 2002). Several countries in this analysis are characterised by a high degree of instability, such as frequent military interventions and religious and ethnic conflicts (Owusu-Antwi, 2012).

***H6. There is a negative relationship between country risks (corruption and political instability) and FDI inflows***

#### **6.2.2.7 Rates of return and FDI**

The level of return on capital invested influences the choice of location for foreign direct investment. However, the incomplete and weakly efficient capital markets in developing countries present difficulties in measuring the risk adjusted rate of return on capital. Using the inverse of GDP as a proxy for return on capital has been justified in the literature since poor, and thus capital scarce countries tend to offer higher return on capital. If this is the case, GDP per capita should be inversely related to FDI and has been used as a proxy for return on capital (Asiedu, 2002; Ivohasina and Hamori, 2005).

***H7. Foreign investors invest in developing countries that offer high rates of return***

#### **6.2.2.8 Exchange rates and FDI**

Both the Aliber (1970) currency hypothesis and the structural adjustment programmes proposed by the IMF and the World Bank, suggests that for countries to develop and achieve high growth rates, subsidies should be removed, currencies devalued and trade

regimes liberalised (Anyanwu, 1992). By the late 1980s developing countries had embraced such adjustment policies and liberalisation was considered inevitable given their very low economic growth rates and the financial support offered by the World Bank and the IMF.

***H8. Foreign investors with strong domestic currencies invest in host countries with weak currencies***

## 6.2.3 RESEARCH METHODOLOGY

This section describes the research design. Firstly, the sample countries used for the analysis will be reported. Secondly, the description of the variables will be presented. Thirdly, the preliminary data analysis will be carried out. Fourthly, the models will be specified and estimated.

### 6.2.3.1 Sample Countries

Table 13 shows the sample of countries used in the analysis. The initial sample included all countries but due to missing data or because some of the values were outliers that would bias the estimates, a few countries were removed. For example, Bahrain and Qatar were excluded from the analysis on account of high GDP per capita and thus they do not fit with the developing country profile of the sample. The choice of countries was determined by data availability. This is because some of the variables used had limited data for most countries in Sub-Saharan Africa and the MENA regions.

**Table 13 Sample Countries**

MENA Region	Algeria, Bahrain*, Egypt, Iran, Jordan, Kuwait, Libya, Morocco, Qatar*, Saudi Arabia, Syria, Tunisia and Yemen
SSA Region	Angola, Botswana, Burkina Faso, Burundi, Chad, Ethiopia, Ghana, Guinea, Kenya, Lesotho, Mali, Mauritania, Mozambique, Niger, Rwanda, Senegal, South Africa, Sudan and Uganda

**Note:** \* These countries are outliers and excluded from the analysis.

#### **6.2.3.2 Variable Description**

The data used will be structured to capture the classified theories of FDI, and where applicable, the four broad pillars as discussed previous chapters. Also, given the widely different sizes of the countries under review it is important that the variables used take account of population size in order that comparisons are valid and useful. Thus, the majority of variables in the modelling are considered on the basis of percentage of total population or values per capita. Data on FDI inflows, pupils in technical education, and mobile users are expressed in per capita terms while the primary education enrolment rate and GDP are in percentage terms. The data were obtained from the World Development Indicators, UNCTAD, World Bank Governance Indicators, United States Geological Survey Mineral Resources, and the United States Energy Statistics.

**Table 14 Variable Definitions**

FDI inflows per capita (Dependent Variable)	FDI inflows by country divided by the total host country population (\$) (UNCTAD 2012)	Broad Pillars
<b>Theories assuming perfect market</b>		
Rate of Return	Yield on capital investment, measured as the reciprocal of GDP per capita, as in Asiedu, 2002 (WDI, 2012)	Economic/Market Structure
GDP Growth Rate	Annual percentage growth rate of GDP at market prices based on constant local currency (WDI, 2012)	Economic/Market Structure
<b>Theories assuming imperfect market</b>		
Natural Resources	Raw materials used in production or consumption, measured: i Crude Oil Proven Reserves in billions of barrels (US Energy Stats, ii Gold Production in Kilograms (US Geological Survey), iii Mineral Rent % GDP (WDI, 2012)	
% of Population in vocational or technical education	% of population enrolled in technical and vocational education  (World Bank Development Indicators 2012)	Human Capital
Primary School Enrolment Rate	Rate of enrolment in primary education to proxy basic literacy, as in Marimuthu et al, 2009; Dae-Bong, 2009 (WDI, 2012)	Human Capital
% Population Growth	Growth rate of population (WDI, 2012)	Human Capital
% Population of Mobile Phone Users	% population using mobile telephones either on a post-paid or prepaid basis, proxies infrastructure (WDI, 2012)	Infrastructure
Inflation	Annual % change in the cost of consumer goods and services (WDI, 2012), as in Griffiths and Wall, 2004 (WDI, 2012)	
Labour Force (% of Population 15+)	% of population 15 + who meet the ILO definition of economically active persons (WDI, 2012)	Human Capital
Trade Openness	Sum of imports plus exports as % of GDP, proxies the degree of liberalisation, as in Srinivasan, 2011	Economic Structure/Market Structure
<b>Other theories</b>		
Exchange Rate	Domestic exchange rate with respect to US\$ (WDI, 2012)	
<b>Theories based on other factors</b>		
Political Stability	The likelihood government will be destabilised or overthrown by unconstitutional and violent means (WGI, 2012)	Governance
Control of Corruption	Measures the extent to which public power for personal gain is controlled (World Bank Governance Indicators, 2012)	Governance
Domestic Credit to Private Investors (% of GDP)	Financial resources offered to domestic and private investors, including loans, trade credits and accounts receivable that can be claimed for payment (WDI, 2012)	Infrastructure

### **6.2.3.3 Preliminary Analysis**

Table 15 reports the descriptive statistics for the variables used in the estimation. It is clear that the MENA region has a higher level of development at the mean, with many values greater than SSA. In particular, the extent of FDI, human capital, infrastructure and domestic credit level are greater in the MENA sample. The distribution of natural resource endowment differs with MENA having high oil reserves and SSA greater mineral deposits. The mean trade liberalisation is similar although the SSA sample has a much higher dispersion. The institutional governance variables, that is, control of corruption and political stability, are higher in the MENA region although the differences are not great. Correlation coefficients are listed in Table 16. The only collinear variables are user of mobile phones and the internet and thus the former measure is used in the analysis.

**Table 15 Summary Statistics**

Sample Countries		Total			MENA		SSA	
Variable	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Mean	Std. Dev.
FDI	72.39				138.40		36.09	
	6	161.392	-169.1	1458	5	242.387	1	67.192
Voc. & Tech education	0.539	0.819	0	4.599	1.119	1.12	0.221	0.261
			32.60	156.3	104.67		92.46	
% Primary Sch. Enrol*	96.8	21.573	8	1	5	8.957	9	25.01
				11.42				
Crude Oil Reserves	4.917	4.613	0	6	9.381	1.78	2.462	3.772
Gold Production	2.093	1.761	0	5.634	1.09	1.483	2.645	1.657
				54.16				
Mineral Rents	1.864	5.744	0	3	0.415	1.199	2.661	6.974
	28.87			187.8			18.67	
Mobile Phone Users	7	35.312	0.019	6	47.434	44.788	1	23.278
	75.90		27.68	202.8			74.63	
Openness	6	35.07	8	5	78.216	22.197	5	40.434
				-				
Rate of Return	-3.411	0.509	-4.721	2.496	-3.869	0.366	-3.159	0.386
Population Growth	2.3	0.895	0.131	6.577	2.095	0.88	2.413	0.884
				33.62				
GDP Growth Rate	5.152	3.896	-4.933	9	4.723	2.669	5.389	4.417
	26.94			161.9			21.12	
Domestic Credit	6	28.144	2.014	8	37.531	24.389	5	28.422
	38.02			85.85			35.59	
Control of Corruption	5	21.08	2.392	4	42.451	19.792	1	21.412
	31.24			85.09			30.44	
Political Stability	4	19.731	0	6	32.703	16.946	1	21.1
	583.9				722.74		507.5	
Exchange Rate	2	1578.569	0.269	10254	2	2370.73	6	878.93
							11.56	
Inflation	9.287	21.554	-9.798	325	5.142	5.547	7	26.262
	62.63						70.14	
Labour Force	9	14.359	40.2	85.9	48.992	6.88	5	11.604

\* This value is > 100% because of the addition of over-aged and under-aged students who entered education early or late.

**Table 16 Correlation Matrix**

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	FDI	1.000																	
2	Voc. & Tech. Educ.	0.141	1.000																
3	Pri. Sch. Enrol.	0.126	0.300	1.000															
4	Crude Oil Reserves	0.247	0.465	0.181	1.000														
5	Gold Prod.	-0.047	-0.341	-0.350	-0.217	1.000													
6	Mineral Rents	-0.003	-0.122	-0.053	-0.083	0.278	1.000												
7	Mobile Users	0.621	0.169	0.287	0.354	-0.038	0.116	1.000											
8	Internet Users	0.501	0.123	0.268	0.374	-0.151	-0.081	<b>0.813</b>	1.000										
9	Openness	0.242	-0.043	0.263	0.068	-0.449	0.129	0.212	0.145	1.000									
10	Rate of Return	-0.432	-0.445	-0.394	-0.655	0.276	0.065	-0.657	-0.593	-0.280	1.000								
11	GDP/Capita Growth	-0.054	0.031	0.133	0.107	-0.152	-0.070	-0.063	-0.006	0.080	-0.010	1.000							
12	GDP Growth Rate	-0.070	-0.026	0.073	0.093	-0.133	-0.066	-0.101	-0.037	-0.001	0.059	0.236	1.000						
13	Domestic Credit	0.214	0.135	0.198	0.261	0.110	-0.009	0.462	0.472	0.034	-0.468	-0.270	-0.089	1.000					
14	Control of Corruption	0.227	-0.058	0.149	-0.059	0.023	0.008	0.327	0.314	0.190	-0.428	-0.275	-0.090	0.535	1.000				
15	Political Stab.	0.203	0.146	0.098	-0.122	-0.120	0.018	0.283	0.150	0.301	-0.391	-0.188	-0.048	0.237	0.675	1.000			
16	Exchange Rate	-0.108	0.027	0.014	0.017	0.151	0.090	-0.058	-0.054	-0.196	0.004	-0.115	-0.049	-0.095	-0.155	-0.266	1.000		
17	Inflation Rate	0.003	-0.053	0.108	0.071	-0.059	0.002	-0.103	-0.099	0.194	0.066	0.058	0.011	-0.133	-0.206	-0.194	0.064	1.000	
18	Labour Force	-0.247	-0.384	-0.054	-0.604	0.180	-0.089	-0.306	-0.339	-0.205	0.557	0.319	0.164	-0.340	-0.067	-0.021	-0.038	0.118	1.000

#### **6.2.3.4 Models and Estimation**

The modelling uses a balanced panel of 20 SSA and 11 MENA countries. The data are annual for the period 2000-2010. Pooled OLS and Fixed Effects estimation were used as in the majority of models the random effects estimator was rejected on the basis of the Hausman test. The time period was wholly due to data availability and the sample size was partly due to time period and partly due to the fact that some countries were outliers and thus, were excluded.

##### ***6.2.3.4.1 Panel Data***

Panel data is now widely used to estimate econometric models owing to its advantages in quantitative studies (Bond, 2002). Panel data refers to the pooling of observations on a cross-section of countries, firms, households, etc. over numerous time periods (Baltagi, 2005). It is made up of repeated observations on fixed units. When the cross-section units are more than the temporal unit ( $N > T$ ), the panel data is known as “cross-sectional dominant”. On the other hand, when the temporal units are more than the spatial units ( $N < T$ ), the panel data is known as “temporal dominant” (Podesta, 2000). The following are some of the advantages of panel data.

Firstly, panel data allow both the cross-section and the time series aspects of the data to contribute to the parameter estimates. Many variables can be more accurately measured at the micro level, and biases resulting from aggregation over countries are eliminated. Secondly, panel data suggest that countries are heterogeneous. Time series and cross-section studies not controlling for this heterogeneity run the risk of obtaining biased results. Panel data are able to control for any country and time-invariant variables whereas a time-series study or a cross-section analysis cannot. Not accounting for country-specific differences in economic or



behavioural assumptions, such as countries operating under different political systems or more or less restrictive regulations, can cause serious mis-specification. Thirdly, it may be important to incorporate dynamic effects and these models provide a means to study the dynamics of adjustment. Cross sectional distributions that look relatively stable can hide a multitude of changes and in particular, the rate of change is only identified in panel or time series estimation. Furthermore, it is reasonable to assume that there is variation in the parameters across countries. Finally, studies using panel data find the Between estimator (based on the cross sectional component of the data) tends to give long-run estimates while the Within estimator (based on the time series aspects of the data) gives short-run estimates. This supports the conventional wisdom that cross-section studies tend to yield long-run responses while time-series tend to yield short-run responses (Kuh, 1959; Houthakker, 1965).

#### **6.2.4 RESULTS AND DISCUSSIONS**

This section discusses the empirical results of the determinants of FDI in the two least recipient regions of FDI. The main aims of this section are as follows: 1). to examine specifically the determinants of FDI into the two least recipient regions; and 2). to investigate if any differences arise from structural and behavioural factors between these two regions and how they compare in their FDI determinants.

In this study, several advantages were found to using panel data models as discussed in detail in Baltagi (2005). Given the differences between the regions, highlighted by the descriptive statistics summarised in Table 5, it is useful that the technique employed considers the heterogeneity across countries in order to reduce the risks of obtaining biased estimates. The Fixed Effects Model used allows the intercept to vary for each individual country but still assumes that the slope coefficients are constant across the sample. The estimating equation can be expressed

$$y_{it} = \alpha_i + \beta X_{it} + \mu_i + v_{it} \quad (1)$$

where  $y$  is FDI inflows per capita in country  $i$  at time  $t$ ,  $X$  is a matrix of independent variables and  $\alpha$  and  $\beta$  are coefficients to be estimated.  $\mu_i$  and  $v_{it}$  represent the decomposed disturbance term where  $\mu_{it}$  are country specific effects and  $v_{it}$  are random errors distributed iid (Gujarati, 2004).

Equation (1) was first estimated using OLS on the pooled sample, with and without a SSA dummy. This was followed by a panel fixed effects estimation of the whole sample with two specifications. Finally, the sample was divided into the two regions and each estimated using a fixed effects panel estimation.

#### **6.2.4.1 Regional Comparison of FDI Inflows**

Table 17 reports levels of FDI inflows. In Panel A it is clear that the countries in SSA have received by far the lowest amount of inward investment over this period, followed by the MENA countries. Interestingly, the coefficient of variation for all regions, with the exception of Europe and Central Asia is not very different, suggesting that the dispersion of foreign investment activity is uniform. Panel B in the table shows some encouraging growth in inward FDI for both regions in the present analysis although SSA lags behind the MENA countries to a considerable extent.

**Table 17 FDI Inflows to Developing and Emerging Regions (\$ billions)**

<b>Panel A FDI Inflows (2000 – 2010)</b>					
<b>Regions</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Coef of Var.</b>	<b>Minimum</b>	<b>Maximum</b>
SSA	5.92	9.11	1.54	0.74	28.70
East Asia & Pacific	66.30	104.00	1.57	1.39	328.00
Latin America & Caribbean	30.60	42.90	1.40	0.61	122.0
MENA	13.00	27.10	1.40	-0.02	87.50
Europe & Central Asia	190.00	286.00	2.08	4.31	852.00

<b>Panel B Growth in FDI Inflows for SSA and MENA Regions</b>			
<b>Regions</b>	<b>2000-2002</b>	<b>2003-2006</b>	<b>2007-2010</b>
SSA	11.040	15.524	31.736
MENA	9.295	45.759	87.886

Source: World Bank Development Indicators

#### 6.2.4.2 Empirical Findings

The results are in Table 18. Pooled OLS in model 1 for the pooled sample is the least preferred estimation and thus the discussion will be mostly confined to Models 2 to 6. This is due to the advantages the fixed effects model possesses over pooled OLS. With respect to statistical tests on the robustness of these models, the fixed effects estimation has a higher explanatory power than OLS and the Chow Test showed that SSA and the MENA countries are behaviourally and structurally different based on the F test and critical values. The value of the F test was 17.350 hence, both regions were divided and investigated separately in models 5 and 6 since the null hypothesis of no structural change between both regions was rejected both at the F distribution, 10% (1.49), 5% (1.67) and 1% (2.04) critical values. In addition to the correlation matrix showing no likelihood of multicollinearity, the mean VIF of 2.43 (which is < 10) also confirms no serious multicollinearity between the variables. In the specification tests, all models are significant. A Breusch-Pagan/Cook-Weisberg Test for heteroskedasticity indicated the presence of heteroskedasticity and therefore robust standard

errors were used to relax the assumptions that the errors were both independent and identically distributed.

H1 tested the importance of market size. The growth of GDP per capita is largely insignificant in all the estimation with the exception of the individual MENA (Model 5), which most likely reflects the higher levels of disposable income in the MENA region which attracts FDI for market seeking opportunities. H2 tested the importance of human capital as a predictor of FDI and these measures produced mixed results. The results of the fixed models (3, 4 and 6) show literacy and basic education is a positive and significant determinant of FDI. Surprisingly, the exception is the MENA region. Also unexpected is the insignificant coefficient on further training, including vocation and technical education.

However, the coefficient on the size of the labour force is positive and significant in the full fixed effects Model (3). To further support this claim, the per capita number of technical students was interacted with the labour force in Model 4. These combined variables suggest a positive although not significant impact on FDI inflows. This implies that the labour force available in the regions is not yet embodied with the required threshold of technical education to stimulate efficiency and skilled seeking FDI. Thus H2 is not unambiguously accepted.

Three measures were used to test the impact on natural resource endowments on FDI inflows (H3). Surprisingly, few models show a significant impact, with only gold production positive in Model 2 and mineral rents negative in the fixed effects estimation for the whole sample (Model 3). To further investigate this hypothesis natural resource variables were interacted with political stability and with trade openness. The former is justified as political stability can have an impact on the exploration or production of natural resources while the latter can influence firms' decisions to enter natural resource sectors.

**Table 18 Pooled OLS and Fixed Effects Estimations (Robust standard errors)**

FDI Inflow Per Capita	Pooled OLS	Pooled OLS SSA Dummy	Fixed Effects	Fixed Effects Variables Interaction	Fixed Effects MENA Countries	Fixed Effects SSA Countries
Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
GDP Per Capita Growth Rate	-0.419 (1.528)	0.458 (1.620)			7.374* (4.034)	0.003 (1.377)
GDP Growth Rate			1.018 (1.325)	2.258 (1.642)		
Primary School Enrolment Rate	0.046 (0.233)	0.021 (0.233)	1.306** (0.549)	0.960* (0.581)	0.656 (3.126)	0.519* (0.298)
% of Population in Voc. & Tech. Educ.			0.876 (31.718)	-197.018 (142.831)		
Labour Force (% of Population 15+)			6.828* (3.739)	-1.289 (4.312)		
% of Population in Voc. & Tech. Educ. * Labour Force (% of Population 15 +)				4.018 (2.932)		
Crude Oil Reserves	2.017 (1.791)	-0.362 (2.130)	0.321 (6.309)	7.808 (5.340)		
Gold Production	6.534 (5.562)	11.264* (6.386)	9.098 (11.457)	6.573 (11.912)	-137.715 (119.425)	16.407 (11.074)
Mineral Rents (% of GDP)			-5.992*** (2.073)	-3.266 (3.258)		
Crude Oil Reserves * Gold Production * Trade Openness				0.035 (0.027)		
Crude Oil Reserves * Gold Production * Political Stability				-0.262*** (0.098)		
% Population of Mobile Users	4.592*** (0.914)	4.488*** (0.904)	4.317*** (0.699)	4.295*** (0.656)	5.112*** (0.943)	1.482** (0.636)
Trade Openness	0.558*** (0.203)	0.706*** (0.233)	2.496*** (0.622)	1.625*** (0.509)	4.895*** (1.420)	0.230 (0.347)
Control of Corruption	0.367 (0.572)	0.181 (0.558)	2.577*** (0.819)	2.416*** (0.782)	2.906* (1.580)	0.775* (0.404)
Political Stability	-0.335 (0.629)	-0.239 (0.609)		1.268 (0.957)		
Rate of Return	44.683* (26.967)	51.323* (27.767)	568.234** (224.338)	851.334*** (231.299)	2394.033*** (582.970)	320.987** (151.938)
Exchange Rate			-0.011*** (0.004)	-0.012** (0.005)	0.003 (0.006)	-0.002 (0.006)
Inflation Rate			-0.124 (0.301)			
Domes. Credit	-1.151** (0.474)	-1.125** (0.469)	1.862 (1.414)			
SSA Dummy		-44.801* (23.872)				
Cons.	116.619 (71.836)	164.277** (81.555)	1335.212* (757.446)	2826.634*** (890.833)	8824.289*** (2219.014)	1053.997** (507.374)
No. of Obs.	341	341	341	341	121	220
F Stat	4.73	8.64	7.83	7.50	11.16	6.64
Prob. > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
R-Squared	0.4866	0.4391	0.7635	0.7859	0.8334	0.6026

Robust Standard Errors are in Parentheses; \*Significance at the 90% Level; \*\*Significance at the 95% Level; \*\*\*Significance at the 99% Level

Note: Data was un-pooled into SSA and MENA since Chow Test indicates that both regions are structurally and behaviourally different

Model 4 shows that only the interaction with political stability is negative and significant.

A reasonable explanation is that these two regions have not attained the required threshold in political stability and trade openness to fully attract FDI into their natural resource

sectors. In the longer term, further liberalisation of trade regimes and the improvement of the political environment, the abundance of natural resources available in the regions can positively influence FDI.

Infrastructure development is clearly important as a determinant of FDI inflows and is positive and significant in both OLS and fixed effects estimation. This is expected and supports the literature on FDI, particularly investment from developed to developing countries. Thus H4 is accepted for all the models using the total sample and the regional samples, although SSA has a lower elasticity. Likewise, trade openness is positive and significant for the total sample using both fixed effects although only in the MENA region is trade liberalisation important. This may be explained by the high trading barriers that still exist in some SSA countries and this should improve with time and further improvements in the institutions. But in general, H5 is accepted.

The results for political and country risk show that control of corruption has a positive influence on FDI inflows however, political stability is insignificant. The explanation for this may be found in Model 4, where political stability is included in a composite variable along with natural resource endowments, which has a negative and significant coefficient. The problems in developing countries around these factors, political stability and oil reserves, are well known and have resulted in a highly skewed development pattern. Thus, H6 is supported in the broad sense of better governance is a positive influence on FDI inflows but when these measures are disaggregated there is some ambiguity in the results. However, foreign investors perceive genuine efforts against corruption as an incentive to investment.

The final two hypotheses considered crucial factors in the FDI decision for multinational enterprises, access to finance and the costs of funds. Unfortunately, measurement is

inadequate with respect to these variables. However, using the accepted metrics in these models the return on capital is a positive and significant determinant of FDI in all models and using the total and regional samples. This suggests that foreign investors are influenced by the likelihood of an acceptable return on capital, which is important as both SSA and the MENA regions are perceived as being characteristically risky, and thus require a premium to undertake higher risk. Related variables, such as the exchange rate and inflation are negative and significant and insignificant respectively. The findings confirm that the exchange rate devaluation that is part of most adjustment programmes actually deters rather than attracts FDI. The negative and significant coefficient on the availability of credit in the pooled OLS model for the whole region (2) shows that FDI in the region is likely to fall as firms will not be able to exploit their ability to access funds from their home country and thus compete favourably with host country firms but accessing funds at a lower rate. Thus, while H7 is accepted, H8 cannot be supported for these data.

## **6.3 DETERMINANTS OF INWARD FDI IN SSA**

### **6.3.1 HYPOTHESIS DEVELOPMENT**

The hypotheses will be structured according to the theoretical frameworks of FDI as classified by Moosa (2002). Most of the hypotheses in this section have already been developed in the previous section. Thus, reference would be made to previous work where necessary to avoid repetition. This analysis is something of a robustness check, however it covers a wider time period and a larger SSA sample size.

### **6.3.1.1 HYPOTHESES BASED ON THE THEORY OF PERFECT MARKETS**

#### ***6.3.1.1.1 Rates of return and FDI***

The justification to the relationship between these two variables is explained in section 6.2.2.7

***H1a. Higher rates of return are positively related to FDI***

#### ***6.3.1.1.2 Market growth/size and FDI***

The justification to the relationship between these two variables is explained in section 6.2.2.1

***H1b. Market growth/Size is positively related to FDI***

### **6.3.1.2 HYPOTHESES BASED ON THE THEORY OF IMPERFECT MARKETS**

#### ***6.3.1.2.1 Natural resources and FDI***

The justification to the relationship between these two variables is explained in section 6.2.2.3

***H2a. FDI is positively related to the abundance of natural resources***

#### ***6.3.1.2.2 Infrastructure development and FDI***

The justification to the relationship between these two variables is explained in section 6.2.2.4

***H2b. There is a positive relationship between infrastructure development and FDI***



#### ***6.3.1.2.3 Human Capital and FDI***

The justification to the relationship between these two variables is explained in section 6.2.2.2

***H2c. There is a positive relationship between human capital accumulation and FDI***

#### ***6.3.1.2.4 Strategic asset and FDI***

It is often argued that the desire to lend further support to the strategic asset seeking motivation of firms is reflected in the current wave of investment in overseas R&D and merger and acquisition (M&A) activity (Huggins et al., 2007). This enables firms to accumulate new technology, marketing skills and operational capabilities (Pradhan, 2010). Bertrand et al, (2007) showed that M&A is to a larger extent motivated by asset seeking motives. In addition, Pradhan (2010) used the number of M&As to show that MNEs in India employ M&A as a strategy to acquire strategic assets in emerging economies.

***H2d. Growth in FDI inflows is based on strategic asset motives***

### **6.3.1.3 HYPOTHESIS BASED ON OTHER THEORIES**

#### ***6.3.1.3.1 Exchange rate and FDI***

The justification to the relationship between these two variables is explained in section 6.2.2.8

***H3a. FDI inflows are from countries where the domestic currency is strong***

#### ***6.3.1.3.2 Lending rates and FDI***

The hypothesis is based on the relative cost of capital between the home and host country. If the cost of borrowing is higher in the host country, foreign firms can enjoy a cost

advantage over local domestic firms and hence, is in a better position to enter the host country market by funding their FDI from home. On the other hand, if foreign investors use funds sourced in the host country this cost advantage is reduced (Majeed and Ahmad, 2008). However, most foreign investments in developing countries are likely to be financed from the home country due to the lack of well-functioning financial institutions in most parts of the region. Likewise, since firms that move across borders tend to be huge they may still enjoy a cost advantage over local firms if they borrow from the host country market because the cost of borrowing would be cheaper for them relative to local firms due to their perceived lower risk.

***H3b. An increase in the lending rate has a positive influence on FDI***

#### **6.3.1.4 HYPOTHESES BASED ON OTHER FACTORS**

##### ***6.3.1.4.1 Country risks (corruption and political instability) and FDI inflows***

The justification to the relationship between these two variables is explained in section 6.2.2.6

***H4a. Countries characterised by high political and country risk are not attractive to foreign investors***

##### ***6.3.1.4.2 Inflation and FDI***

Inflation suggests macroeconomic instability and potential risk for foreign investors (Wadhwa and Sudhakara, 2011; Udoh and Egwaikhide, 2008).

***H4b. Inflation is negatively associated with FDI***

#### 6.3.1.4.3 Trade liberalisation and FDI

The justification to the relationship between these two variables is explained in section 6.2.2.5

#### *H4c. Trade liberalisation and openness are positively related to FDI*

### 6.3.2 RESEARCH METHODOLOGY

This section provides information on the research design used for the second analysis. Firstly, the sample countries used for the analysis will be presented. Secondly, the description of the variables will be shown. Thirdly, the preliminary data analysis will be carried out. Fourthly, the model will be specified and estimated.

#### 6.3.2.1 Sample Countries

Table 19 shows the sample of countries used in this analysis. Due to gaps in the data, not all SSA countries are included. Furthermore, Equatorial Guinea was removed as it was found to be an outlier.

**Table 19 Sample Countries**

Angola	Benin	Botswana**	Burkina Faso	Burundi	Cameroun**	Cape Verde	
Central African Rep.	Chad	Cote d'Ivoire	DRC Congo	Equatorial Guinea*	Ethiopia	Gabon**	
Ghana**	Guinea	Kenya**	Lesotho	Madagascar	Malawi	Mali	
						Rep. of Congo	Rwanda
Mauritania	Mauritius	Mozambique**	Namibia**	Niger	Nigeria**		
	South Africa**	Sudan**	Swaziland	Tanzania**	The Gambia	Uganda	Zambia**
Senegal**							

Note: \* Removed on account of been an outlier; \*\* Indicate the 13 countries used to investigate strategic asset motives

#### 6.3.2.2 Variable Description

Some of the data presented in table 20, capture similar information. Therefore, Cronbach's alpha estimation was used to check for reliability and those variables were factored using Principal Components Analysis. All the data used for this study were obtained from

secondary sources including World Bank Development Indicators, UNCTAD, National Central Bank Databases, World Governance Indicators, PTS Database, Global Terrorism Database and the United States Energy Statistics Databases. Data definitions and sources are in Table 20.

#### **6.3.2.3 Preliminary Analysis**

A plot of the standardised residuals against the fitted values showed that Equatorial Guinea is an outlier and, hence it was excluded from subsequent analyses. Tables 21, 22 and 23 report the Cronbach's alpha of the factored variables, descriptive statistics and the correlation matrix, respectively. The estimated reliability test scores in table 21 show that the variables factored are of high internal consistency. The correlation coefficients indicate that some variables are highly collinear with each other, and thus these variables were not included together in the same estimation. The descriptive statistics show that in general, there are not significant differences in the full sample means and sub-regional means. However, the South & East SSA countries have a higher level of development at the mean for most of the relevant metrics. For example, values of GDP growth, human capital, infrastructure, governance and macroeconomic factors are greater in the South & East SSA countries. On the other hand, West & Central SSA countries have greater natural resources endowments and are more likely to attract FDI as a percentage of GDP.

**Table 20 Variable Definitions**

Categorised Theory of FDI	Independent Variables	Broad Pillars
<i>Theories Assuming Perfect Market</i>		
Rate of Return	Defined in Table 17	Economic/Market Structure
GDP Growth Rate	Defined in Table 17	Economic/Market Structure
GDP Per Capita	GDP divided by mid-year population (WDI, 2012)	Economic/Market Structure
Population Growth Rate	Growth rate of population (WDI, 2012)	
<i>Theories Assuming Imperfect Market</i>		
Natural Resources	Defined in Table 17	
School Enrolment Rates	Defined in Table 17	Human Capital
Labour Force	Defined in Table 17	Human Capital
Strategic Asset (M&A)	The number of host country companies acquired or purchased in a given year by foreign companies	Economic/Market Structure
% Population of Mobile Phone Users	Defined in Table 17	Infrastructure
Electricity Production	The amount of electricity in kWh produced	Infrastructure
Trade Openness	Defined in Table 17	Economic/Market Structure
Inflation	Defined in Table 17	
Tax Rate	Mandatory contributions payable by businesses as a share of profit (WDI, 2012)	
<i>Other theories</i>		
Exchange Rate	Defined in Table 17	
Lending Rate	Official rates charged by banks to meet short and medium term financing needs	
<i>Theories Based on Other Factors</i>		
Political Stability	Defined in Table 17	Governance
Control of Corruption	Defined in Table 17	Governance
Government Consumption	All current expenditures for purchases of goods and services (WDI, 2012)	Governance

**Table 21 Cronbach's Alpha (Reliability Test)**

Generated Variables	Factored Variables	All SSA Sample Cronbach's Alpha	South & East SSA Cronbach's Alpha	West & Central SSA Cronbach's Alpha
GDP & Per Capita Growth Rate	( GDP Growth Rate, and GDP per Capita Growth Rate)	0.9850	0.9851	0.9855
Oil and Gas	(Crude Oil Reserves, Gas Reserves, Vol. of Crude Oil Production, and Vol. of Gas Production)	0.8534	0.8088	0.8762
Fuel Price	(Petrol Price and Diesel Price)	0.9524	0.9594	0.9492
Terrorism	(Number of Terrorist Death & Injuries, and Number of Terrorist Incidents)		0.8434	0.8367
Political Unrest	[Number of Refugees and Political Terror (Political Instability)]	0.8178		
Governance	(Rule of Law, Govt. Effectiveness, and Voice and Accountability)	0.9500		

**Table 22 Summary Statistics**

Sample Countries		Total			South & East SSA		West & Central SSA	
Variable	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Mean	Std. Dev.
FDI of GDP	3.793	5.445	-8.139	46.501	3.724	4.389	3.843	6.094
Log Rate of Return	-3.161	0.409	-4.178	-2.352	-3.272	0.457	-3.082	0.351
GDP Growth Rate	4.675	3.985	-12.674	33.629	5.140	3.849	4.343	4.052
GDP/Capita Growth Rate	2.162	3.773	-15.306	29.104	2.852	3.629	1.669	3.802
Population Growth Rate	3.915	1.757	0.602	19.733	3.619	1.308	4.126	1.993
Log Crude Oil Reserves	2.909	4.040	0.000	10.571	1.515	3.131	3.905	4.317
Log Gas Reserves	5.485	6.034	0.000	14.268	4.875	5.900	5.920	6.100
Natural Resource Rent (% of GDP)	11.520	16.263	0.006	78.552	7.254	13.039	14.568	17.618
Agric Raw Materials Exports	11.071	18.889	0.000	93.824	5.680	5.477	14.921	23.566
Mobile Users (per 100 people)	15.335	22.714	0.000	117.758	17.179	24.213	14.017	21.522
Infrastructure Investment	5.428	3.648	0.000	9.763	5.969	3.359	5.041	3.799
Pri. Sch. Completion Rate	57.776	23.098	0.000	110.095	67.447	22.817	50.868	20.726
Sec. Sch. Enrolment Rate	32.239	21.620	5.169	95.700	39.680	25.872	26.924	16.026
Labour Force	6.556	0.575	5.155	7.701	6.611	0.618	6.516	0.539
Exchange Rate	535.099	851.824	0.128	5228.901	534.964	1041.122	535.196	687.233
Lending Rate	20.615	22.050	0.000	247.000	23.541	20.376	18.524	22.976
Political Instability	65.894	23.654	7.692	100.000	59.318	22.259	70.591	23.535
Corruption Control	34.030	22.050	0.002	85.854	43.006	22.656	27.618	19.221
Trade Openness	74.060	36.209	17.859	202.850	84.405	41.410	66.670	29.930
Inflation	21.975	182.991	-9.616	4145.107	33.613	277.390	13.662	49.224
Govt. Consumption	14.900	7.227	2.675	42.950	18.002	8.056	12.685	5.615
Tax Rate	58.520	59.482	9.600	292.400	33.406	20.590	76.458	70.684

#### **6.3.2.4 Models and Estimation**

This analysis uses panel data on a sample of countries for the period 1996-2010. These were further split into sub-regional groups within SSA as confirmed by the Chow Test. Also, a sub-set of 13 countries was used to investigate the influence of the strategic asset variables on FDI given these were the only country for which this data was available. Pooled OLS and fixed effects estimations were used since the random effects estimator was rejected on the basis of the Hausman test. The modelling techniques in this study reduce the risk of obtaining biased estimates because they can control for country-specific differences in the sample and heterogeneity across the sample countries. The countries in the sample operate under different restrictive regulations and political and economic systems and thus, to avoid severe mis-specification, these panel techniques (panel OLS and double fixed effects) were employed. Further discussions on pooled OLS and fixed effects models were presented in section 6.2.3.4.1.

##### ***6.3.2.4.1 Principal Component Analysis***

Principal component analysis (PCA) is a multivariate method that analyses data in which observations are described by inter-correlated quantitative variables. PCA is a variable reduction procedure. It is very useful when data on a number of variables have some redundancy. Redundancy in this context means that some variables are correlated with one another because they are technically measuring the same construct (Abdi and Williams, 2010; Tipping and Bishop, 1999).

##### ***6.3.2.4.1 Chow Test***

The Chow Test is a statistical technique to test equality of sets of coefficients in two regressions (Toyoda, 1974). The test is an estimated linear regression to determine whether

$p$  coefficient still belongs to the same regression when  $m$  additional observations are included. To achieve this test of equality between sets of coefficients in two linear regression, the sum of squares of the residuals assuming the equality and the sum of squares without assuming the equality are obtained. The ratio of the difference between these two sums to the latter sum, which is adjusted for the corresponding degrees of freedom, is distributed as the F ratio under the null hypothesis (Chow, 1960). Thus, a Chow test is used on a sample to check for no structural and behavioural differences under the null hypothesis. Once the null holds then estimates would not be biased if the whole sample is pooled and analysed.



Table 23 Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1 FDI of GDP	1.000																									
2 Rate of Return	-0.044	1.000																								
3 GDP & Per Capita Growth Rate	0.111	-0.046	1.000																							
4 GDP/Capita Growth Rate	0.107	-0.099	0.993	1.000																						
5 Population Growth Rate	-0.025	0.411	0.175	0.084	1.000																					
6 Oil and Gas	0.085	-0.266	0.014	0.008	0.034	1.000																				
7 Natural Resource Rent	0.280	-0.215	0.075	0.061	0.009	0.618	1.000																			
8 Agric Raw Materials Exports	-0.180	0.188	-0.004	-0.022	0.083	-0.101	-0.202	1.000																		
9 Mobile Users	0.108	-0.564	0.004	0.039	-0.273	0.143	0.115	-0.137	1.000																	
10 Infrastructure Investment	0.027	-0.183	-0.043	-0.037	-0.089	0.226	0.076	-0.116	0.288	1.000																
11 Pri. Sch. Completion Rate	0.058	-0.634	0.031	0.080	-0.350	0.031	-0.051	-0.310	0.466	0.268	1.000															
12 Sec. Sch. Enrolment Rate	-0.006	-0.744	0.012	0.073	-0.373	0.031	-0.150	-0.240	0.547	0.144	<b>0.815</b>	1.000														
13 Labour Force	-0.075	0.458	0.075	0.036	0.228	0.363	0.042	0.065	-0.145	0.282	-0.247	-0.356	1.000													
14 Fuel Price	0.025	0.088	-0.007	-0.007	-0.029	-0.328	-0.141	0.059	0.407	0.160	0.041	-0.008	-0.050	1.000												
15 Exchange Rate	0.058	0.207	-0.055	-0.069	-0.083	-0.223	0.036	0.019	-0.074	0.125	-0.053	-0.277	0.128	0.278	1.000											
16 Lending Rate	0.122	0.187	-0.091	-0.103	0.061	0.177	0.233	-0.241	-0.172	-0.068	-0.068	-0.100	0.143	-0.195	0.004	1.000										
17 Political Unrest	0.110	0.385	-0.011	-0.049	0.296	0.375	0.353	-0.127	-0.113	0.066	-0.399	-0.412	0.557	0.019	0.052	0.261	1.000									
18 Political Instability	0.048	0.474	-0.079	-0.112	0.264	0.305	0.320	-0.139	-0.260	0.077	-0.458	-0.515	0.586	-0.019	0.127	0.228	<b>0.833</b>	1.000								
19 Political Instability (Political Terror)	0.096	0.330	-0.058	-0.084	0.264	0.363	0.304	-0.155	-0.099	0.122	-0.319	-0.333	0.540	0.022	0.078	0.283	<b>0.932</b>	<b>0.803</b>	1.000							
20 Terrorism	0.043	0.214	-0.080	-0.104	0.198	0.235	0.195	-0.151	-0.115	0.136	-0.088	-0.134	0.381	-0.114	-0.042	0.210	0.570	0.550	0.554	1.000						
21 Corruption Control	-0.078	-0.447	0.070	0.108	-0.202	-0.350	-0.485	-0.014	0.222	0.027	0.462	0.600	-0.413	0.008	-0.203	-0.252	-0.668	-0.724	-0.643	-0.376	1.000					
22 Governance	-0.098	-0.478	0.091	0.126	-0.251	-0.325	-0.494	0.005	0.250	0.060	0.574	0.664	-0.373	0.006	-0.192	-0.261	-0.725	-0.803	-0.691	-0.371	<b>0.921</b>	1.000				
23 Trade Openness	0.309	-0.506	0.043	0.092	-0.261	0.075	0.318	-0.326	0.218	0.019	0.379	0.351	-0.556	-0.123	-0.186	0.091	-0.345	-0.304	-0.301	-0.209	0.248	0.202	1.000			
24 Inflation	0.014	0.024	0.029	0.026	0.035	0.118	0.139	-0.052	-0.056	-0.075	-0.073	-0.059	0.045	-0.116	-0.036	0.551	0.136	0.108	0.141	0.092	-0.101	-0.105	0.097	1.000		
25 Govt. Consumption	0.073	-0.254	0.095	0.120	0.005	-0.191	-0.021	-0.099	0.067	-0.045	0.255	0.277	-0.362	-0.097	-0.232	0.021	-0.260	-0.282	-0.228	-0.090	0.350	0.322	0.442	0.130	1.000	
26 Tax Rate	-0.002	0.287	-0.132	-0.142	0.103	-0.186	0.013	-0.008	-0.057	-0.262	-0.190	-0.204	-0.173	0.137	-0.032	0.028	0.258	0.157	0.193	0.149	-0.223	-0.251	-0.117	-0.021	0.007	1.000

### 6.3.3 RESULTS AND DISCUSSION

This section discusses the empirical results of the investigation on how the categorised theories of FDI explain FDI activities in Sub-Saharan Africa. The aims of this section are as follows: 1). to examine which of the categorised theories of FDI best explain FDI activities in Sub-Saharan Africa; and 2). to examine if sub-regional groups within SSA are structurally and behaviourally different. To model the determinants of foreign investment the estimating equation can be stated as follows:

$$y_{it} = \alpha_i + \beta X_{it} + \mu_i + v_{it}$$

where:

$y$  = FDI inflows as percentage of GDP in country  $i$  and at time  $t$ ,  $X_{it}$  is a matrix of independent variables,  $\beta$  = is a vector of coefficients to be estimated and  $\mu_i$  and  $v_{it}$  are the decomposed disturbance terms (Gujarati, 2004).

#### 6.3.3.1 Regional Comparison of FDI Inflows

Table 24 (panels A and B) reports the descriptive statistics of FDI inflows into SSA. Panel A shows that a few countries on average account for a significant proportion of the overall FDI inflows into the region. Likewise, the coefficient of variation in FDI inflows confirms the unequal distribution across countries. Panel B shows that when separated into sub-regional groups, West and Central SSA countries perform better compared to South and East SSA countries. However, the dispersion of FDI between the two groups is similar.

**Table 24 Country and Sub-regional Comparisons of Foreign Direct Investment Inflows**

<b>Panel A. FDI Inflows (1996-2010)</b>					
	Mean	Std. Dev.	Coef of Var.	Minimum	Maximum
SSA Countries					
Angola	0.817	1.705	2.088	-3.227	3.505
Benin	0.076	0.065	0.858	0.014	0.255
Botswana	0.428	0.355	0.828	-0.070	0.902
Burkina Faso	0.060	0.096	1.609	0.004	0.370
Burundi	0.001	0.003	2.276	0.000	0.012
Cameroun	0.181	0.211	1.162	-0.024	0.668
Cape Verde	0.074	0.066	0.888	0.009	0.211
Central African Rep.	0.029	0.032	1.102	0.001	0.117
Chad	0.256	0.358	1.401	-0.279	0.924
Cote d'Ivoire	0.324	0.085	0.264	0.165	0.446
DRC Congo	0.617	0.868	1.407	-0.044	2.939
Equatorial Guinea	0.488	0.562	1.150	-0.794	1.636
Ethiopia	0.269	0.158	0.585	0.022	0.545
Gabon	0.051	0.233	4.556	-0.489	0.320
Ghana	0.551	0.732	1.327	0.059	2.527
Guinea	0.099	0.122	1.228	0.002	0.386
Kenya	0.115	0.176	1.539	0.005	0.729
Lesotho	0.116	0.090	0.780	0.028	0.287
Madagascar	0.307	0.426	1.389	0.010	1.169
Malawi	0.063	0.053	0.841	0.006	0.176
Mali	0.139	0.173	1.245	0.002	0.718
Mauritania	0.137	0.224	1.630	-0.038	0.814
Mauritius	0.137	0.153	1.113	-0.028	0.431
Mozambique	0.334	0.252	0.753	0.064	0.893
Namibia	0.176	0.222	1.261	-0.031	0.796
Niger	0.162	0.306	1.887	-0.001	0.947
Nigeria	3.463	2.708	0.782	1.005	8.555
Rep. of the Congo	0.909	1.070	1.177	-0.009	2.816
Rwanda	0.026	0.039	1.489	0.002	0.119
Senegal	0.149	0.122	0.816	0.009	0.398
South Africa	3.079	3.063	0.995	-0.184	9.645
Sudan	1.342	1.082	0.806	0.000	3.534
Swaziland	0.060	0.064	1.076	-0.061	0.153
Tanzania	0.400	0.197	0.492	0.150	0.936
The Gambia	0.042	0.026	0.611	0.010	0.082
Uganda	0.386	0.279	0.723	0.121	0.817
Zambia	0.457	0.383	0.838	0.072	1.324

(\$US billion, 1996 – 2010). Data Source: World Bank Development Indicators.

<b>Panel B. sub-regional FDI inflows 1996-2010</b>					
Sub-Regions	Mean	Std. Dev.	Coef of Var.	Minimum	Maximum
South and East Africa	7.1442329	4.301538	0.602099344	2.159926	17.4371
West and Central Africa	9.1784885	7.058076	0.768980257	2.299092	20.4195

(\$US billion, 1996 – 2010). Data Source: World Bank Development Indicators.

### 6.3.3.2 Empirical Findings

The model was initially estimated using panel OLS for the full sample only (model 1) and then subsequently using double fixed effects for the full sample (model 2), the regional sub-groups (models 3 and 4) and the 13 SSA sample (model 5). As stated above, the Hausman test favoured the fixed effects over the random effects estimations. To test whether the regional sub-groups were behaviourally and structurally different a Chow Test was conducted. The value of the F test was 4.015 and since it is greater than the F distribution at 10% (1.42), 5% (1.57) and 1% (1.88) the null hypothesis was not accepted. Thus, the regional sub-groups were separated and investigated in models 3 and 4. With the exception of model 5, results for all the models report robust standard errors. This was because a Breusch-Pagan/Cook-Weisberg Test for heteroskedasticity suggested the presence of heteroskedasticity and to relax the assumption that the errors were both independent and identically distributed, robust standard errors are reported. Unfortunately, the Generalised Method of Moments (GMM) technique produced inconsistent estimates and to avoid spurious results, the findings were not presented. Also, due to the small sample sizes and not a large time period, further tests such as unit roots and cointegration could not be carried out.

The regression results are in table 25. The least favoured estimation is the panel OLS (model 1) due the advantages fixed effects possess over the panel OLS technique. Therefore, the discussion will be largely restricted to models 2 to 5. The return on capital hypothesis suggests that rate of return is positive and significant both for the full SSA sample and regional groups. Equally, market size hypothesis shows a positive and significant relationship between market growth and FDI for both the full sample and the West and Central countries although it is insignificant for the South and East countries. This suggests that FDI in West and Central SSA is more market seeking compared to South and

Eastern SSA, which might be export oriented. Models 3 and 4 also support this assertion with trade openness only positive and significant in South and Eastern SSA.

With respect to the hypotheses under the imperfect markets theory, natural resource endowments (oil, gas and agriculture) are not significant predictors of FDI in majority of models with only natural resource rents positive and significant in Models 1 and 5. This is surprising as the decision to undertake FDI in developing countries is frequently influenced by the presence of natural resources. In addition to the explanation given in the first analysis, the following explanations can be deduced from these insignificant relationships. First, countries that are natural resource abundant impose barriers to entry as colonisation and the exploitation of natural resources are very much part of the legacy of many of these countries. On the part of the governments this is an attempt to protect national sovereignty or by existing firms to retain monopoly rents. Some examples are the monopoly of mines in South Africa, DRC, Liberia and Namibia and the partial deregulation and privatisation of the oil sectors in the case of Nigeria and Angola. Second, huge amounts of natural resources remain unused due misplaced priorities and ongoing conflicts between interest groups. Well known cases of militancy and conflicts in Nigeria, Liberia, Sierra Leone, Angola, DRC and the Republic of Congo have halted the exploration and production of natural resources (Basedau and Wegenast, 2009).

**Table 25 Panel OLS and Double Fixed Effects Estimations (in parentheses, are robust standard errors).**  
**Std. Errors in Model 5 are not robust.**

FDI of GDP (Dependent Variable)	Panel OLS Model 1 All Sample SSA Countries	Fixed Effects Model 2 All Sample SSA Countries	Fixed Effects Model 3 West & Central SSA Countries	Fixed Effects Model 4 South & East SSA Countries	Fixed Effects Model 5 13 SSA Countries
Independent Variables					
Rate of Return	3.503*** (0.992)	28.397*** (6.303)	29.061** (12.587)	28.521*** (8.325)	3.410 (5.716)
GDP & Per Capita Growth Rates	0.563*** (0.315)	0.407 (0.268)	0.993*** (0.396)	-0.596 (0.371)	
GDP/Capita Growth Rate					0.004 (0.065)
Population Growth Rate	0.003 (0.094)	0.260* (0.144)	0.303** (0.147)		
Oil and Gas	-0.089 (0.301)	-0.403 (2.127)	-3.479 (3.262)	-0.214 (1.687)	
Natural Resource Rent	0.072*** (0.034)	-0.140 (0.085)		-0.136 (0.082)	0.084** (0.040)
Agric Raw Materials Exports		0.002 (0.027)	0.049 (0.031)		
Mobile Users	0.040*** (0.013)	0.046* (0.027)	0.019 (0.036)	0.053* (0.028)	0.057*** (0.019)
Infrastructure Investment		0.035 (0.074)			
Electricity Production					2.118* (1.215)
Mergers and Acquisition					0.081* (0.042)
Pri. Sch. Completion Rate	0.003 (0.015)	0.050 (0.033)		0.072** (0.034)	
Sec. Sch. Enrolment Rate			0.188** (0.080)		
Labour Force		27.202** (11.922)	45.486* (26.937)	21.200* (10.729)	18.954 (17.235)
Fuel Price	-0.076 (0.257)	-1.499*** (0.494)	-1.407* (0.718)	-2.236** (1.063)	
Exchange Rate	0.005** (0.0002)	-0.0001 (0.001)	-0.0003 (0.001)	0.0003 (0.001)	0.0004 (0.0005)
Lending Rate	0.022 (0.017)	0.035* (0.021)	0.014 (0.019)	0.007 (0.043)	0.009 (0.039)
Political Unrest		0.912 (0.680)			
Political Instability			-0.001 (0.562)	0.798 (0.728)	-0.007 (0.023)
Terrorism			1.524 (1.347)	0.880 (0.578)	
Corruption Control			0.071** (0.030)	0.071** (0.032)	0.062*** (0.024)
Governance	0.186 (0.303)	1.858** (0.935)			
Trade Openness	0.052*** (0.012)	0.104** (0.042)	0.096 (0.071)	0.084* (0.047)	
Inflation	-0.003*** (0.001)	-0.004*** (0.001)			
Govt. Consumption	-0.015 (0.049)	-0.030 (0.083)	-0.002 (0.120)	-0.214* (0.128)	
Tax Rate	-0.001 (0.003)	-0.003 (0.007)			-0.151** (0.061)
Cons.	9.013*** (2.987)	-89.018 (85.315)	-218.651 (167.419)	-46.001 (80.480)	-117.263 (104.049)
No. of Obs.	540	540	315	225	195
F Stat	6.30	6.20	5.57	4.91	7.13
Prob. > F	0.0000	0.0000	0.0000	0.0000	0.0000
R Squared	0.1924	0.4752	0.5014	0.5506	0.6345

\*Significance at the 90% Level; \*\*Significance at the 95% Level; \*\*\*Significance at the 99% Level

Notes: The null hypothesis of no structural or behavioural differences between SSA sub-regions was rejected and thus the whole sample was not pooled in models 3 and 4

Measures of infrastructure development as proxied by the number of mobile subscribers and electricity production are significantly related to FDI. However, differences between the regional sub-groups were found. In the South and Eastern countries, mobile users had a positive and significant influence on FDI inflows while this was insignificant in the West & Central SSA region of SSA. This is probably due to the recent expansion and privatisation of the communication sectors, such that they are not sufficiently developed to have a significant impact on FDI inflows. Human capital, as captured by two measures, formal education and labour availability, is positive and significant in the regional groups but not the full sample where only the second measure is significantly different from zero. A possible explanation for the lack of explanatory power in the education variable may be the high levels of inequality across the total sample. However, these findings confirm the importance of human capital accumulation in attracting FDI and specifically labour quality. The results in model 5 relate to the strategic asset variable, proxied by the number of mergers and acquisitions. This is found to have a positive and significant influence on FDI inflows. These results suggest that FDI in the region are strategic and asset seeking.

The exchange rate hypothesis suggests that the exchange rate is positive and significant in model 1 but insignificant in the other models. The lending rate is positive and significant in model 2 but positively and insignificant otherwise. These results suggest that exchange rate and internal financing hypotheses cannot overly influence inward FDI into SSA countries as the statistical support in this sample is weak.

Finally, a number of hypotheses were tested under the theories based on other factors. These include factors such as political stability and governance. In these models, political stability was not found to have any significant influence on FDI. This is surprising but confirms the results by Asiedu (2002) where the political institutions in developing countries are not a factor in the FDI decision of firms. The empirical evidence supports this

as, for example, Angola, Nigeria, Kenya, South Africa, DRC, Equatorial Guinea and Sudan are all characterised by high political instability and yet receive the most FDI in SSA. On the other hand, corruption control is a positive and significant factor both in the regional sub-groups and subset sample. Equally, a broader definition of governance that includes the rule of law, government effectiveness and voice and accountability, is also positive although only statistically significant in model 2. These results show that potential investors are aware of the benefits from government control of corruption and improvement in levels of governance in general, all of which are an incentive for FDI activity in SSA.

Trade openness is found to have a positive and significant impact, with the exception of model 3, the West & Central regional sub-group. This suggests that trade liberalisation is a determining factor for FDI and improvements in policies that liberalise trade regimes in, West & Central SSA could bring benefit in terms of foreign investment. Inflation has a negative and significant effect and government consumption is detrimental to foreign investment, although the latter is only significant in model 4. However, the impact of government consumption is more complex given the highly aggregate nature of this variable. As shown above, human capital is an important determinant of FDI, as is infrastructure development. State support for these usually has a positive influence on FDI. However, other projects, and the efficiency with which they are implemented, may have a negative impact and disentangling these effects from the data is difficult.



**Table 26 Summary of the expected and observed results**

<b>Categorised Theory of FDI</b>	<b>Expected Sign</b>	<b>Observed Sign</b>	<b>Broad Pillars</b>
<b><i>Theories Assuming Perfect Market</i></b>			
Rate of Return	Positive	Positive (significant)	<b>Economic/Market Structure</b>
GDP Growth Rate	Positive	Positive (less robust)	<b>Economic/Market Structure</b>
<b><i>Theories Assuming Imperfect Market</i></b>			
Natural Resources	Positive	Insignificant	
School Enrolment Rates	Positive	Positive (less robust)	<b>Human Capital</b>
% of Population in vocational or technical education	Positive	Insignificant	<b>Human Capital</b>
Strategic Asset (M&A)	Positive	Positive (significant)	<b>Economic/Market Structure</b>
% Population of Mobile Phone Users	Positive	Positive (significant)	<b>Infrastructure</b>
Electricity Production	Positive	Positive (significant)	<b>Infrastructure</b>
Trade Openness	Positive	Positive (significant)	<b>Economic/Market Structure</b>
<b><i>Other theories</i></b>			
Exchange Rate	Positive	Insignificant	
Lending Rate	Positive	Insignificant	
<b><i>Theories Based on Other Factors</i></b>			
Political Stability	Positive	Insignificant	<b>Governance</b>
Control of Corruption	Positive	Positive (significant)	<b>Governance</b>
Government Consumption	Negative	Negative (less robust)	<b>Governance</b>

## 6.4 CONCLUSION

This chapter was developed into two categories. Firstly, the determinants of FDI into the two least recipient regions of FDI were investigated. The main aim was to examine, structural and behavioural differences if any, between these regions and how they compare in their FDI determinants. Secondly, a somewhat robustness check on the determinants of inward FDI in SSA which involved a wider time period, larger sample size, broader range of hypotheses, and sub-regional differences of FDI determinants in SSA. All the analyses employed panel data estimation techniques on a sample of SSA and MENA countries for the periods ranging, 1996-2010. Also, all the data used were collected from secondary sources.

Findings from the investigations showed that there are differences between these two least recipient regions of FDI and that all things being equal, the marginal benefits from increases in the quality of FDI determinants will be more in MENA countries compared to SSA

countries. Also, FDI activities in SSA are best explained by rate of return, market size, locational (infrastructure development, strategic asset, human capital accumulation), and trade liberalisation hypotheses. However, the internal financing, and currency area hypotheses have no significant effect on inward FDI in SSA.

Furthermore, whilst some of these findings are similar to existing literature, they nevertheless, add to the complexity in the study of FDI considering some of the mixed findings, thus significantly extending the literature of FDI and in particular, Sub-Saharan Africa. Whilst many of the literature in FDI have ignored structural and behavioural in FDI determinants between developing countries, this study controlled for them. Also, investigating the determinants of FDI in two recipient regions as well as, controlling for all four locational determinants (market, resource, efficiency, and strategic seeking) adds to what is already known of FDI. Finally, relating these findings to the four broad pillars shows that infrastructure and economic structure have very important roles to play in attracting FDI into Sub-Saharan Africa. This suggests that considerable attention should be continuously given to these pillars. Human capital and governance were less robust as a determinant of FDI. However, these should not imply that governance and human capital are not important determinants of FDI. Rather, credible policies should be pursued to ensure that these measures are at a level that will be attractive for foreign investment.

## **CHAPTER SEVEN**

### **FIRM PERFORMANCE**

#### **DATA AND RESULTS**

##### **7.1 INTRODUCTION**

This chapter investigates the determinants of firm financial performance in Sub-Saharan Africa (SSA) with respect to market structure. The investigation further examines the influence of foreign ownership on firm performance. The analysis in this chapter is motivated by the previous chapter (Determinants of FDI). The motivation draws upon the need to investigate how some of the factors (governance, human capital and infrastructure) that impact on FDI also impact on firm performance. All the analyses were carried out empirically using cross sectional OLS technique on 3 different SSA manufacturing countries for the period 2007. The hypotheses that were tested, methodology employed, variables used will be explained in detail before the analyses. The findings showed that the impact of some of the factors that influence firm level performance is similar to FDI. Also, foreign ownership was shown to influence firm performance positively.

##### **7.2 DETERMINANTS OF FIRM PERFORMANCE**

###### **7.2.1 OVERVIEW OF THE ANALYSIS**

The analyses on the determinants of firm performance use cross sectional OLS on a sample of manufacturing firms in SSA (garments, fabricated metals, and woods and furniture industries). The findings revealed that the quality of human capital, foreign

ownership, and size positively and significantly influence firm financial performance. On the other hand, competition, capital intensity, poor electricity delivery, and access to finance impact negatively on firm financial performance. Corruption and political instability (except for garments firms) have insignificant relationships with firm financial performance.

## **7.2.2 HYPOTHESIS DEVELOPMENT**

The framework for the hypotheses was developed according to these lines of argument on the determinants of firm performance - structure-conduct-performance hypothesis (SCP), the efficient-structure (EFS) hypothesis, and the environmental and uncertainty conditions.

### **7.2.2.1 Barrier to Entry/Monopolistic Activities and Firm Performance**

Monopolistic activities are associated with the advantage of established sellers within an industry over potential entrant sellers. These advantages are usually reflected in the degree to which these established sellers can continually raise their prices above competitive levels without attracting new sellers into the industry. These activities affect the competitive behaviour of market participants, firm's strategy and profitability (Karakaya and Parayitam, 2013; Evanoff and Fortier, 1988).

***H1. The degree of competition is negatively related to firm profits***

### **7.2.2.2 Firm Size and Firm Performance**

The importance of size on profitability due to the effects of scale economies and other efficiencies has been emphasised in the literature. Another emphasis between size and profitability has been found through market power and access to capital markets (Lee, 2009). This follows from the traditional neoclassical view of the firm (Pervan and Visic, 2012).

## ***H2 Firm size is positively related with higher profits***

### **7.2.2.3 Foreign Ownership and Firm Performance**

The specific advantage hypothesis implies that foreign-owned firms enjoy superior performance and comparative advantage over domestically owned firms. This hypothesis links to the seminal work of Dunning, (1979) which was developed to explain the ownership location and internalisation (OLI) model. The advantages can arise as a result of better access to markets and resources, know-how, managerial experience, and an overall flexibility that allows profits across borders (Gelubcke, 2013).

## ***H3. Foreign ownership has a positive impact on profitability***

### **7.2.2.4 Capital Intensity and Firm Performance**

Capital intensity is related to efficiency in utilising assets to produce goods and services. Capital intensity has been argued to enhance performance. The justification for this argument is that capital intensive firms can enjoy cost savings since they have invested on physical assets (Lee and Xiao, 2011). Also, capital intensive firms are seen as having superior capital budgeting techniques, which can allow firms benefit from lower production costs per unit of output (Klammer, 1973).

## ***H4. There is a positive relationship between capital intensity and profitability.***

### **7.2.2.5 Human Capital and Firm Performance**

It is widely acknowledged that competence and skills are very important for the performance of firms. The education and training individuals possess increase their abilities and potential to work, resolve problems and carry out innovation (Awan and Sarfraz, 2013).

Skills and experience embodied in the workforce can also increase productivity and economic value of firms (Revenge, 1997). In the face of intense competition, firms can leverage their workforce as a competitive tool (Marimuthu et al, 2009).

***H5. Quality of human capital has a positive impact on profitability***

#### **7.2.2.6 Political Instability and Firm Performance**

Political instability not only alters some critical factors within an economy but it can also influence actual decisions and policies to differ from first best optimal ones. With respect to firms, political instability can generate concerns over the future direction of economic policy, the characterisation of socio-economic environment (expropriation, shut downs, destruction of tangible assets), and the effective degree of enforcement of property rights and contracts (Carmignani, 2003). The destruction of tangible assets can impact negatively on production, skill composition, and labour thus, a decline in performance (Collier and Duponchel, 2013).

***H6. Political instability has a negative impact on profitability***

#### **7.2.2.7 Corruption and Firm Performance**

In recent years, there has been an overwhelming recognition that corruption considerably hampers the performance of firms (Athanasouli et al, 2012). In corrupt environments the performance of firms is not wholly dependent on the efforts managers devote to the supervision and coordination of productive factors since corruption can shift the efforts of managers away from productive processes (Dal Bo and Rossi, 2007).

***H7. Corruption has a negative impact on profitability***

#### **7.2.2.8 Government Policy Uncertainty and Firm Performance**

The role of government policies to business activities and the provision of public goods can influence firm performance. Uncertainties regarding changes in government regulation, embargos to earnings repatriation, fiscal and monetary reforms are some of the factors that can affect firm performance if managers have any doubts towards government's commitment on the status quo of existing policies. This could also include excessive government bureaucracy and red tapes (Miller, 1992).

***H8. Policy uncertainties (labour regulations and business permits), has a negative impact on profitability.***

#### **7.2.2.9 Infrastructure and Firm Performance**

Quality public infrastructure is an example of a public good which can generate external economies (that is, lower firm's costs and increasing productivity). Firms especially those in developing countries which are already faced with economic difficulties can save costs in the presence of good infrastructure delivery (Morrison and Schwartz, 1992). For example, stylised facts indicate that in developing countries, the insufficient provision of electricity hampers the performance of manufacturing firms (Rud, 2012).

***H9. Poor quality infrastructure has a negative impact on profitability.***

#### **7.2.2.10 Macroeconomic Uncertainty and Firm Performance**

Macroeconomic uncertainty covers the fluctuations in the level of economic activity such as inflation, exchange rates, government spending, interest rates, etc. (Miller, 1992). These fluctuations might hamper the ability of firms to allocate resources effectively, and can also create unnecessary frictions in the credit market (Boyd et al, 2001).

***H10. Macroeconomic uncertainty has a negative impact on profitability.***

#### **7.2.2.11 Access to Finance and Firm Performance**

A country's financial development plays an important role in the performance of firms. Thus, there is a strong relationship between financial development, financial constraints, and firm performance. Studies suggest the positive influence access to finance has on firms' ability to develop, operate and expand since those with easy access to funds can fund profitable investments and projects (Gonzalez et al, 2007). Similarly, firms having difficulty in obtaining credit unrelated to their own performance may not be able to exploit productivity-enhancing investment opportunities and are likely to experience poor performance (Arnold et al, 2008; Hallward-Driemeier et al, 2006).

***H11. Obstacle in accessing credit has a negative impact on profitability.***

### **7.2.3 RESEARCH METHODOLOGY**

This section will provide information on the research design used for the investigation into the determinants of firm performance in SSA. Firstly, the sample countries used for the analysis will be reported. Secondly, the description of the variables will be presented. Thirdly, the preliminary data analysis will be carried out. Fourthly, the model used for the investigation will be specified and estimated.

#### **7.2.3.1 Sample Countries**

Table 27 shows the sample of countries analysed. The sample size was due to data availability. Some of the countries have insufficient data across the industries. Also, the sample was split and analysed separately based on their industry classification.



**Table 27 Sample Countries**

<b>Industries</b>	<b>Countries</b>
Garment Manufacturing	Ghana, Kenya, Mali, Mozambique, Nigeria, Senegal, South Africa
Fabricated Metal Manufacturing	Mozambique, Nigeria, South Africa
Wood and Furniture	Ghana, Nigeria, South Africa

### **7.2.3.2 Variable Description**

All the data used for this study are from the World Bank Enterprise Survey (WBES). The survey collects data from key manufacturing and service sectors in every region of the world. In order to minimise error, and produce data that are comparable across different countries, the surveys employ standardised survey instruments and identical sampling methodology (WBES, 2012). Studies such as Eifert et al, (2008); Hudson et al, (2012); Beck and Demirguc-Kunt (2006), have used the WBES to analyse the determinants of firm performance. The manufacturing sector was used because according to Lewis (1954), it is the most important in facilitating economic transformation for developing countries. Besides the fact that host manufacturing firms will be more productive and efficient as foreign firms enter the host market, the determinants of FDI can also influence firm performance.

Firm performance in this study was measured using the accounting-based approach. The justification for using this approach is that performance effectiveness is viewed to be equal with financial viability. This type of financial viability can be applied to different kinds of organisations thereby allowing for a significant possibility of predicting the determinants of firm performance. The accounting based approach can also be generalised because measures such as profit and liquidity ratios, are much appreciated by most profit-seeking firms under any circumstances (Kihn, 2005). According to Steers (1975) the accounting based approach

also enables the use of various measures. For instance, under good and poor economic conditions the performance of firms may be equated to the level of capital investment and capital liquidity respectively.

Profit per Worker is used for this study as the dependent variable. Profit per worker measures the relative profitability per employee (Bharadwaj, 2000). The reasons for choosing this measure of performance are due to the following: 1). Individual employee performance has implications for a firm's productivity (Huselid, 1995). 2). High performance work practices should be characterised by increased productivity and quality. That is, firms whose employees are embodied with the necessary pool of skills can rely on their workers to anticipate possible problems, avoid production shut downs, develop new products, and ensure quality when faced with rapidly changing market conditions (Kling, 1995). 3). It makes comparison of firms' productivity by means of a single index and also evaluates the unit currency value (or dollar value) of returns for investment (Huselid, 1995). Table 28 gives a summary of the variables.

**Table 28 Variable Description**

Profit per Worker, Log (Dependent Variable)	Measures the relative profitability per employee	Broad Pillars
Structure Conduct Performance Hypothesis		
Degree of Competition	Measures the perceived degree of competition on firm's main products (from 0-4)	Economic Structure
Firm Size (Dummy)	Used to capture firm size as a function of the number of employees.	
Foreign Ownership (Dummy)	Used to capture firms with at least 10% of foreign ownership	
Efficient Structure Hypothesis		
Capital Intensity	Measures the amount of money invested in order to get one unit currency worth of output	Human Capital
Skilled Workforce	Captures the number of workers that have some special knowledge or ability in their work	
Unskilled Workforce	Captures the number of workers which are not required to have special training, education, or skill to perform their job.	Human Capital
Other Determinants		
Political Instability (Obstacle)	Measures the perceived threats on business activities associated with the abrupt change in the polity (from 0-4) polity	Governance
Corruption (Obstacle)	Measures the perceived extent to which activities such as bribery, and inappropriate royalty demands from public officials affect firm's activities (from 0-4)	Governance
Electricity (Obstacle)	Measures the perceived extent to which power outages and delays in electricity connections affect firm's activities (from 0-4)	Infrastructure
Macroeconomic Uncertainty	Fluctuations in the level of economic activity such as inflation, exchange rate, interest rates, etc. (from 0-4)	Infrastructure
Access to Finance (Obstacle)	Refers to the ease in obtaining credit facilities (from 0-4)	
Labour Regulations (Obstacle)	Refers to how laws relating to working conditions of the employees pose a problem to firm's activities (from 0-4)	
Business Permit (Obstacle)	Measures the obstacles experienced in obtaining permits for the establishment, and expansion of business activities (from 0-4)	Governance
N.B	0 = No Obstacle, 1 = Minor Obstacle, 2 = Moderate Obstacle, 3 = Major Obstacle, 4 = Very Severe Obstacle  Small firms = less than 20 employees, Large Firms = Over 100 employees	

### 7.2.3.3 Preliminary Analysis

A preliminary regression to check for outliers was done by individual regression. The output revealed no observed outliers. Also, statistical investigation by means of the Chow

Test on these manufacturing industries revealed structural and behavioural differences, thus the sample was split and the analysis carried out based on industry classification. That is, the null hypothesis of no structural and behavioural differences between these manufacturing industries was rejected since the F Test value of 15.972 is greater than the F distribution at the 10% (1.55), 5%(1.75) and 1%(2.18) critical values. Also, a kernel density test of the dependent variable showed it followed an abnormal distribution thus, natural logarithms were used to correct for a normal distribution.

From the summary statistics in table 29 (samples A, B, and C), it is clear that fabricated metal industries have a higher level of capital intensity and skilled workforce at the mean. The coefficient of variation for these industries with respect to capital intensity and skilled workforce is different, suggesting that the dispersion of these variables across these industries is not uniform. Also, the fabricated metal industries show a higher profit per worker compared to the other industries. Obstacles to business activities as a result of environmental and economic conditions are similar across industries. Country comparisons of data in these industries also reveal some interesting statistics. Firms in individual countries are more likely to report having problems with infrastructure or governance variables. In addition, firms in Nigeria, Kenya, and Ghana are most likely to be affected. The correlation coefficients show no serious collinearity between the variables (table 31).

Table 29 Summary Statistics for all Countries

Sample A					
Garment Industries					
Variable	Mean	Std. Dev.	Coef. of Var.	Min	Max
Profit per Worker, Log	7.071	1.489	0.211	1.848	13.025
Competition	3.033	1.028	0.339	0.000	4.000
Capital Intensity	8.464	44.861	5.300	0.000	563.843
Skilled Workforce	18.249	67.889	3.720	0.000	900.000
Political Instability (Obstacle)	0.704	1.045	1.485	0.000	4.000
Corruption (Obstacle)	1.208	1.337	1.107	0.000	4.000
Electricity (Obstacle)	2.617	1.430	0.547	0.000	4.000
Macroeconomic Uncertainty	1.238	1.301	1.050	0.000	4.000
Access to Finance (Obstacle)	2.345	1.567	0.668	0.000	4.000
Labour Regulations (Obstacle)	0.548	0.893	1.630	0.000	4.000
Business Permit (Obstacle)	1.030	1.220	1.185	0.000	4.000
Sample B					
Fabricated Metal Industries					
Variable	Mean	Std. Dev.	Coef. of Var.	Min	Max
Profit per Worker, Log	8.475	2.428	0.286	1.130	17.031
Competition	2.805	1.007	0.359	0.000	4.000
Capital Intensity	64.828	1001.855	15.454	0.000	15714.290
Skilled Workforce	35.927	149.537	4.162	0.000	1700.000
Political Instability (Obstacle)	0.516	0.925	1.791	0.000	4.000
Corruption (Obstacle)	1.203	1.367	1.136	0.000	4.000
Electricity (Obstacle)	1.854	1.555	0.839	0.000	4.000
Macroeconomic Uncertainty	0.852	1.163	1.365	0.000	4.000
Access to Finance (Obstacle)	1.707	1.640	0.961	0.000	4.000
Labour Regulations (Obstacle)	0.638	0.996	1.560	0.000	4.000
Business Permit (Obstacle)	0.610	1.007	1.652	0.000	4.000
Sample C					
Wood and Furniture Industries					
Variable	Mean	Std. Dev.	Coef. of Var.	Min	Max
Profit per Worker, Log	7.934	1.564	0.197	3.682	12.583
Competition	2.661	0.906	0.340	1.000	4.000
Capital Intensity	0.652	3.678	5.638	0.000	61.000
Skilled Workforce	15.242	31.087	2.040	0.000	271.000
Political Instability (Obstacle)	0.618	0.988	1.600	0.000	4.000
Corruption (Obstacle)	1.175	1.328	1.130	0.000	4.000
Electricity (Obstacle)	2.495	1.416	0.567	0.000	4.000
Macroeconomic Uncertainty	1.025	1.240	1.210	0.000	4.000
Access to Finance (Obstacle)	1.958	1.558	0.796	0.000	4.000

<b>Labour Regulations (Obstacle)</b>	0.509	0.846	1.663	0.000	4.000
<b>Business Permit (Obstacle)</b>	0.709	1.086	1.532	0.000	4.000

**Table 30 Summary Statistics of Country Comparison**

Sample A (Garment Industries)										
country	Summary Statistics	Competition	Capital Intensity	Skilled Workforce	Political Instability (Obstacle)	Corruption (Obstacle)	Electricity (Obstacle)	Access to Finance (Obstacle)	Labour Regulations (Obstacle)	Business Permit (Obstacle)
<b>Ghana</b>	Mean	1.938	3.483	15.667	0.250	0.792	3.490	2.771	0.292	0.635
	Std. Dev.	0.243	17.700	35.134	0.616	1.095	0.696	1.403	0.695	0.996
	Min	1.000	0.010	0.000	0.000	0.000	1.000	0.000	0.000	0.000
	Max	2.000	166.667	290.000	3.000	4.000	4.000	4.000	3.000	4.000
<b>Kenya</b>	Mean	3.691	0.790	54.444	1.346	2.407	2.420	2.037	1.235	1.864
	Std. Dev.	0.625	0.815	151.935	1.051	1.311	1.128	1.600	1.197	1.301
	Min	1.000	0.017	1.000	0.000	0.000	0.000	0.000	0.000	0.000
	Max	4.000	3.727	900.000	4.000	4.000	4.000	4.000	4.000	4.000
<b>Mali</b>	Mean	3.714	0.146	5.788	0.227	0.760	2.307	2.762	0.333	1.013
	Std. Dev.	0.761	0.197	5.465	0.615	1.157	1.479	1.599	0.702	1.197
	Min	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Max	4.000	1.294	50.000	4.000	4.000	4.000	4.000	4.000	4.000
<b>Mozambique</b>	Mean	3.294	0.442	9.510	0.745	1.235	1.039	1.471	0.667	0.882
	Std. Dev.	1.006	1.311	21.530	1.230	1.478	1.131	1.461	0.841	1.052
	Min	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Max	4.000	8.665	142.000	4.000	4.000	4.000	4.000	3.000	4.000
<b>Nigeria</b>	Mean	3.518	0.660	5.951	1.192	1.496	3.451	2.746	0.563	1.103
	Std. Dev.	0.763	1.071	8.359	1.150	1.292	0.762	1.327	0.881	1.165
	Min	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
	Max	4.000	6.769	120.000	4.000	4.000	4.000	4.000	4.000	4.000
<b>Senegal</b>	Mean	1.848	122.413	6.256	0.500	0.826	3.283	2.587	0.435	1.413
	Std. Dev.	0.363	136.081	3.041	1.070	1.338	1.026	1.376	0.779	1.586
	Min	1.000	0.000	2.000	0.000	0.000	0.000	0.000	0.000	0.000
	Max	2.000	563.843	15.000	4.000	4.000	4.000	4.000	3.000	4.000
<b>South Africa</b>	Mean	1.898	1.032	47.490	0.306	0.816	1.000	0.969	0.520	0.480
	Std. Dev.	0.336	2.563	108.455	0.738	1.087	1.284	1.272	0.864	0.933
	Min	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Max	2.000	17.333	800.000	3.000	4.000	4.000	4.000	4.000	3.000

Sample B (Fabricated Metal Industries)										
country	Summary Statistics	Competition	Capital Intensity	Skilled Workforce	Political Instability (Obstacle)	Corruption (Obstacle)	Electricity (Obstacle)	Access to Finance (Obstacle)	Labour Regulations (Obstacle)	Business Permit (Obstacle)
Mozambique	Mean	3.312	205.779	10.130	0.416	1.026	1.442	2.403	0.494	0.987
	Std. Dev.	1.003	1790.630	25.200	0.923	1.347	1.391	1.616	0.912	1.186
	Min	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Max	4.000	15714.300	210.000	4.000	4.000	4.000	4.000	4.000	4.000
Nigeria	Mean	3.619	0.424	7.000	0.889	1.587	3.429	2.540	0.508	0.873
	Std. Dev.	0.658	1.208	7.972	1.079	1.488	0.797	1.412	0.948	1.129
	Min	2.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
	Max	4.000	8.250	55.000	4.000	4.000	4.000	4.000	4.000	4.000
South Africa	Mean	1.953	0.716	71.859	0.368	1.104	1.217	0.708	0.821	0.179
	Std. Dev.	0.254	1.311	222.228	0.760	1.272	1.359	1.195	1.058	0.513
	Min	0.000	0.000	2.000	0.000	0.000	0.000	0.000	0.000	0.000
	Max	2.000	9.583	1700.000	4.000	4.000	4.000	4.000	4.000	3.000

Sample C (Wood and Furniture Industries)										
country	Summary Statistics	Competition	Capital Intensity	Skilled Workforce	Political Instability (Obstacle)	Corruption (Obstacle)	Electricity (Obstacle)	Access to Finance (Obstacle)	Labour Regulations (Obstacle)	Business Permit (Obstacle)
Ghana	Mean	1.864	0.667	19.822	0.200	0.733	2.978	3.044	0.356	0.533
	Std. Dev.	0.347	1.463	45.142	0.625	1.269	1.177	1.107	0.570	0.842
	Min	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Max	2.000	6.875	250.000	3.000	4.000	4.000	4.000	2.000	4.000
Nigeria	Mean	3.440	0.323	9.090	0.978	1.470	3.157	2.358	0.560	1.119
	Std. Dev.	0.731	0.625	14.183	1.114	1.342	0.900	1.432	0.889	1.245
	Min	1.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.000
	Max	4.000	5.020	91.000	4.000	4.000	4.000	4.000	4.000	4.000
South Africa	Mean	2.000	1.062	21.076	0.340	0.991	1.453	0.991	0.509	0.264
	Std. Dev.	0.000	5.907	37.597	0.767	1.261	1.435	1.342	0.886	0.708
	Min	2.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Max	2.000	61.000	271.000	4.000	4.000	4.000	4.000	4.000	4.000

**Table 31 Correlation Matrix**

<i>Sample A (Garment Industries)</i>											
	1	2	3	4	5	6	7	8	9	10	11
1 Profit per Worker, Log	1.000										
2 Competition	-0.225	1.000									
3 Capital Intensity	-0.025	-0.200	1.000								
4 Unskilled Workforce	0.010	0.044	-0.015	1.000							
5 Political Instability (Obstacle)	-0.016	0.140	-0.057	0.071	1.000						
6 Corruption (Obstacle)	0.041	0.152	-0.099	0.126	0.476	1.000					
7 Electricity (Obstacle)	-0.190	0.107	0.098	0.021	0.175	0.065	1.000				
8 Macroeconomic Uncertainty	-0.063	0.340	-0.019	0.099	0.478	0.304	0.207	1.000			
9 Access to Finance (Obstacle)	-0.222	0.156	0.004	-0.114	0.145	0.073	0.296	0.272	1.000		
10 Labour Regulations (Obstacle)	0.140	0.078	-0.051	0.149	0.268	0.270	0.056	0.153	-0.015	1.000	
11 Business Permit (Obstacle)	-0.073	0.162	0.013	0.077	0.254	0.206	0.141	0.200	0.187	0.206	1.000

<i>Sample B (Fabricated Metals Industries)</i>											
	1	2	3	4	5	6	7	8	9	10	11
1 Profit per Worker, Log	1.000										
2 Competition	-0.611	1.000									
3 Capital Intensity	-0.069	0.012	1.000								
4 Skilled Workforce	0.314	-0.152	-0.011	1.000							
5 Political Instability (Obstacle)	-0.053	0.161	-0.036	0.029	1.000						
6 Corruption (Obstacle)	-0.133	0.201	-0.057	-0.090	0.353	1.000					
7 Electricity (Obstacle)	-0.262	0.370	-0.077	0.076	0.356	0.168	1.000				
8 Macroeconomic Uncertainty	-0.210	0.296	0.089	0.043	0.532	0.284	0.395	1.000			
9 Access to Finance (Obstacle)	-0.560	0.415	0.012	-0.168	0.178	0.123	0.394	0.503	1.000		
10 Labour Regulations (Obstacle)	0.182	-0.075	0.023	0.157	0.222	0.078	0.071	0.297	-0.005	1.000	
11 Business Permit (Obstacle)	-0.295	0.327	-0.039	-0.114	0.257	0.251	0.302	0.420	0.373	0.095	1.000

<i>Sample C (Wood and Furniture Industries)</i>											
	1	2	3	4	5	6	7	8	9	11	12
1 Profit per Worker, Log	1.000										
2 Competition	-0.335	1.000									
3 Capital Intensity	0.012	-0.062	1.000								
4 Skilled Workforce	0.229	-0.136	-0.016	1.000							
5 Political Instability (Obstacle)	-0.095	0.244	0.080	0.006	1.000						
6 Corruption (Obstacle)	-0.090	0.134	0.042	0.039	0.408	1.000					
7 Electricity (Obstacle)	-0.235	0.302	-0.013	-0.102	0.289	0.281	1.000				
8 Macroeconomic Uncertainty	-0.091	0.179	-0.035	0.029	0.470	0.256	0.274	1.000			
9 Access to Finance (Obstacle)	-0.352	0.164	0.041	-0.193	0.255	0.245	0.399	0.272	1.000		
11 Labour Regulations (Obstacle)	0.044	0.066	-0.039	0.129	0.356	0.115	0.066	0.300	0.059	1.000	
12 Business Permit (Obstacle)	-0.257	0.211	0.041	-0.041	0.263	0.192	0.254	0.173	0.388	0.216	1.000



#### **7.2.3.4 Models and Estimation**

The model uses a cross section ordinary least squares (OLS) regression for the period 2007. Difficulty in data availability for manufacturing firms in Sub-Saharan Africa means only the year 2007 has enough reasonable coverage across different industries.

#### **7.2.4 RESULTS AND DISCUSSIONS**

This section will discuss the empirical results of the determinants of firm performance in SSA manufacturing firms. The main aims of this section are as follows: 1). to investigate how market structure and environmental obstacles impact on firm performance; and 2). to examine the how some of the factors that determine FDI in SSA also influence the performance of firms.

Regarding the assumptions of which the OLS technique is built upon, the statistical tests supported these assumptions and thus, confirmed the estimates are consistent. First, with the assumption that the error terms are both independent and identically distributed, and that the error term and the independent variables in the model are not correlated ( $E(e|X) = 0$ ), a Breusch-Pagan/Cook-Weisberg Test for heteroskedasticity confirms no presence of heteroskedasticity, thus robust standard errors were not employed. Also, a Ramsey RESET (Regression Specification Error Test) did not indicate omitted-variables bias. Second, assumption that the residuals are normally distributed was accepted. A Kernel Density plot of the residual and the Shapiro-Wilk test for normality support that the distribution of the residual is normal. Third, the assumption that there is no specification error was not rejected since the statistical test (linktest) revealed that our model was correctly specified. Fourth, in addition to the correlation matrix, the variance inflation factor, VIF ( $< 10$  in all the models) supports the assumption of no multicollinearity between the variables. The OLS regression was specified using country effects.

The OLS regression was specified in this familiar form:

$$y_i = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \dots \dots \dots \beta_k X_{ip} + \varepsilon_i$$

Where  $y_i$  is case  $i$ 's value on the outcome variable,  $\beta_0$  is the regression constant,  $X_{ij}$  is case  $i$ 's score on the  $j$ th of  $p$  predictor variables in the model,  $\beta_j$  is predictor  $j$ 's partial regression weight, and  $\varepsilon_i$  is the error for case  $i$ .

#### 7.2.4.1 Empirical Findings

The results are reported in tables 32 (Garments Industry), 33 (Fabricated Metals Industry), and 34 (Woods and Furniture Industry). H1 tested the degree of competition on firm financial performance. As hypothesised, the findings showed that the higher the level of competition the lower the profitability for firms. These findings indicate that these manufacturing industries cannot sustain monopoly rents by raising their prices above competitive levels. Thus, H1 is accepted. H2 tested the impact firm size has on performance. The findings showed that size plays a vital role in firm performance. Large firms across these manufacturing industries will enjoy higher profits compared to small firms. This is consistent with theory considering that most small firms lack market experience, cannot invest in certain areas and do not enjoy huge economies of scale. Therefore, H2 is accepted. H3 tested if firms associated with foreign ownership have higher performance. This was the case in all three industries as foreign ownership was positively related to firm performance. This further confirms the argument that foreign affiliation or ownership allows superior tangible and intangible assets as well as better productive output. Hence, H3 is accepted. The test for H4 produced mixed results across these industries. Capital intensity was negative and significantly related to performance for the garments industry; positive and insignificantly related to performance for the woods and furniture

industry; and negatively insignificant to performance for the fabricated metals industry. Findings of the negative relationship are similar to those by Ullah et al, (2013) and Hecht, (2008). A plausible explanation is that in most developing countries, costs involved in acquiring and maintaining physical capital in relation to labour costs are usually very high. Thus, H4 is rejected.

**Table 32 OLS Regression and Standard Error in Parentheses**

*Garment Industry*

Profit per Worker, Log Dependent Variable	OLS Regression Model 1	OLS Regression Model 2 Foreign Ownership Dummy	OLS Regression Model 3 Firm Size (Large) Dummy	OLS Regression Model 4 Firm Size (Small) Dummy
<b>Independent Variables</b>				
Competition	-0.252*** (0.081)	-0.224*** (0.082)	-0.242*** (0.081)	-0.229*** (0.081)
Capital Intensity	-0.093* (0.048)	-0.085* (0.048)	-0.097** (0.048)	-0.094** (0.047)
Unskilled Workforce	-0.001 (0.001)	-0.001 (0.001)	-0.001* (0.001)	-0.001 (0.001)
Political Instability (Obstacle)	-0.196** (0.082)	-0.198** (0.082)	-0.193** (0.082)	-0.171** (0.082)
Corruption (Obstacle)	0.068 (0.063)	0.064 (0.063)	0.066 (0.063)	0.057 (0.063)
Electricity (Obstacle)	-0.288*** (0.057)	-0.283*** (0.057)	-0.283*** (0.057)	-0.260*** (0.058)
Macroeconomic Uncertainty	0.181*** (0.064)	0.174*** (0.064)	0.184*** (0.064)	0.184*** (0.064)
Access to Finance (Obstacle)	-0.152*** (0.052)	-0.140*** (0.052)	-0.146*** (0.052)	-0.131** (0.053)
Labour Regulations (Obstacle)	0.226*** (0.074)	0.236*** (0.074)	0.206*** (0.075)	0.175** (0.076)
Business Permit (Obstacle)	-0.016 (0.062)	-0.023 (0.062)	-0.01 (0.062)	-0.015 (0.061)
Foreign Ownership		0.741** (0.331)		
Firm Size (Large)			0.503** (0.253)	
Firm Size (Small)				-0.463*** (0.177)
Cons	9.076*** (0.240)	8.928*** (0.247)	8.981*** (0.243)	9.246*** (0.247)
No. Of Obs.	407	407	407	407
F Stat	10.82	10.39	10.27	10.61
Prob. > F	0.0000	0.0000	0.0000	0.0000
R Squared	0.2146	0.2245	0.2224	0.228
VIF	1.290	1.280	1.290	1.310

\*Significance at the 90% Level; \*\*Significance at the 95% Level; \*\*\*Significance at the 99% Level

**Table 33 OLS Regression and Standard Error in Parentheses***Fabricated Metals Industry*

Profit per Worker, Log Dependent Variable	OLS Regression Model 1	OLS Regression Model 2 Foreign Ownership Dummy	OLS Regression Model 3 Firm Size (Large) Dummy	OLS Regression Model 4 Firm Size (Small) Dummy
Independent Variables				
Competition	-1.129*** (0.168)	-1.081*** (0.169)	-1.087*** (0.165)	-0.959*** (0.168)
Capital Intensity	-0.129 (0.091)	-0.137 (0.091)	-0.129 (0.089)	-0.107 (0.088)
Skilled Workforce	0.002*** (0.001)	0.002*** (0.001)	0.002** (0.001)	0.002*** (0.001)
Political Instability (Obstacle)	0.128 (0.162)	0.142 (0.161)	0.089 (0.159)	0.094 (0.156)
Corruption (Obstacle)	-0.127 (0.096)	-0.121 (0.095)	-0.099 (0.094)	-0.105 (0.092)
Electricity (Obstacle)	-0.165 (0.101)	-0.175* (0.101)	-0.180* (0.099)	-0.163* (0.097)
Macroeconomic Uncertainty	0.063 (0.130)	0.065 (0.130)	0.070 (0.128)	0.069 (0.126)
Access to Finance (Obstacle)	-0.369*** (0.098)	-0.365*** (0.098)	-0.313*** (0.098)	-0.292*** (0.097)
Labour Regulations (Obstacle)	0.245** (0.122)	0.223* (0.122)	0.208* (0.120)	0.183 (0.119)
Business Permit (Obstacle)	0.165 (0.159)	0.164 (0.158)	0.167 (0.156)	0.142 (0.153)
Foreign Ownership		0.660* (0.381)		
Firm Size (Large)			0.993*** (0.353)	
Firm Size (Small)				-0.952*** (0.264)
Cons	12.807*** (0.395)	12.635*** (0.405)	12.528*** (0.399)	12.810*** (0.381)
No. Of Obs.	166	166	166	166
F Stat	28.56	21.95	23.08	24.25
Prob. > F	0.0000	0.0000	0.0000	0.0000
R Squared	0.6030	0.6106	0.6224	0.6340
VIF	1.61	1.59	1.62	1.62

\*Significance at the 90% Level; \*\*Significance at the 95% Level; \*\*\*Significance at the 99% Level

Number of skilled workers and unskilled workers were used to test the impact of human capital on firm performance (H5). The findings show that quality of human capital is an important determinant of firm financial performance. These findings suggest that the quality of human capital available across these industries (fabricated metals, and wood and furniture) helps raise the productivity and economic values of these firms. Similarly,

unskilled labour was found to be negatively related to firm financial performance for the garments industries. Therefore, H5 is accepted. H6 tested the impact of political instability of firm performance.

**Table 34 OLS Regression and Standard Error in Parentheses**

*Woods and Furniture Industry*

Profit per Worker, Log Dependent Variable	OLS Regression Model 1	OLS Regression Model 2 Foreign Ownership Dummy	OLS Regression Model 3 Firm Size (Large) Dummy	OLS Regression Model 4 Firm Size (Small) Dummy
<b>Independent Variables</b>				
Competition	-0.421*** (0.109)	-0.378*** (0.110)	-0.420*** (0.109)	-0.415*** (0.105)
Capital Intensity	0.005 (0.023)	0.006 (0.023)	0.005 (0.023)	0.009 (0.023)
Skilled Workforce	0.007** (0.003)	0.005 (0.003)	0.006 (0.005)	0.001 (0.003)
Political Instability (Obstacle)	0.025 (0.116)	0.045 (0.116)	0.027 (0.117)	0.077 (0.113)
Corruption (Obstacle)	-0.002 (0.078)	-0.010 (0.078)	-0.002 (0.078)	-0.052 (0.077)
Electricity (Obstacle)	-0.010 (0.074)	-0.018 (0.074)	-0.010 (0.075)	0.018 (0.072)
Macroeconomic Uncertainty	0.008 (0.088)	-0.001 (0.088)	0.011 (0.089)	0.038 (0.085)
Access to Finance (Obstacle)	-0.209*** (0.071)	-0.224*** (0.071)	-0.209*** (0.071)	-0.181*** (0.069)
Labour Regulations (Obstacle)	0.136 (0.114)	0.156 (0.114)	0.131 (0.116)	0.089 (0.111)
Business Permit (Obstacle)	-0.176* (0.091)	-0.188** (0.091)	-0.175* (0.092)	-0.160* (0.089)
Foreign Ownership		0.840* (0.442)		
Firm Size (Large)			0.106 (0.476)	
Firm Size (Small)				-0.870*** (0.214)
Cons	9.440*** (0.318)	9.356*** (0.319)	9.435*** (0.320)	9.966*** (0.334)
No. Of Obs.	246	246	246	246
F Stat	6.65	6.44	6.02	7.95
Prob. > F	0.0000	0.0000	0.0000	0.0000
R Squared	0.2205	0.2323	0.2207	0.2719
VIF	1.29	1.29	1.50	1.32

\*Significance at the 90% Level; \*\*Significance at the 95% Level; \*\*\*Significance at the 99% Level

The results produced mixed findings. Political instability negatively and significantly impact of financial performance of the garments industry. However, it is positive and

insignificantly related to financial performance for the fabricated metals, and woods and furniture industries. These findings for the fabricated metals, and woods and furniture industries are quite surprising although, not unusual. With most Sub-Saharan African countries associated with “low-intensity” but repeated cycle of conflicts and unrests, some firms must have probably adapted ways to mitigate the impact of these unrests and conflicts. Thus, H7 is not clearly accepted. A test of H6 produced mixed results too. Corruption was positively insignificant to performance for the garments industry but negatively insignificant to performance for the fabricated metals, and woods and furniture industries. Two plausible explanations to these findings are as follows: 1). Considering that corruption often takes two parts which are the illegal transaction between public officials and private businesses (direct impact on firms) and illegal misappropriation of public property by public officials (indirect impact of firms), the results might suggest that the latter part of corruption is the most perceived obstacle by these industries. 2). Similar to the political instability scenario, these manufacturing industries must have adapted ways to moderate the effect of corruption. Thus, the data do not support H7

The impact of government policy uncertainty (labour regulations and business permits) and infrastructure (poor electricity delivery) on firm performance was tested (H8 and H9). Poor electricity delivery was negative and significantly related to firm performance for the garments and fabricated metals industries but positive and insignificantly related to performance for the woods and furniture industry. The positive but insignificant relationship for the woods and furniture industry can be explained by the fact that: 1). firms in this industry are most times located in rural areas to enable proximity to primary inputs. 2). this type of industry requires lesser use of electricity for its processes compared to the other industries. Obstacle to business permits was negatively insignificant, negatively significant, and positively insignificant to firm performance for garments, woods and furniture, and

fabricated metals industries respectively. Obstacle as a result of labour regulations was positively significant to performance for the garments and fabricated metals industries but positively insignificant to performance for the woods and furniture industry. This is quite surprising considering it was reported as a form of obstacle to business activities. An explanation to these findings is thus provided. With countries in Sub-Saharan Africa, often characterised by flawed and weak labour laws, any regulations on labour laws to improve the standards of labour might be frowned upon by employers. However, as the results suggest, the impact is positive rather than negative. A suggestion would be to convey these intended changes in labour standards with softer tones and processes. Therefore, H8 and H9 are not unambiguously rejected.

The final sets of hypotheses tested the impact of macroeconomic uncertainties and access to finance on firm performance. Obstacle in accessing finance was negatively significant to financial performance in all the three industries. This is not surprising considering that countries in Sub-Saharan Africa are characterised by weak financial institutions and markets, and suffer from savings and credit creation. Macroeconomic uncertainty was positively significant to performance for the garments industry but positively insignificant to performance for the woods and furniture, and fabricated industries. These findings are contrary to expectations however, the following plausible explanation is given. Monetary and fiscal policies can create macroeconomic panic through their effects on interest rates, exchange rates, inflation, taxes, and government spending. Depending on the effects of these policies, aggregate demand can be stimulated upward which boosts investment and consumption and thus, profit for firms. While H9 cannot be accepted, H10 is unambiguously accepted.

**Table 35 Summary of the expected and observed results**

<b>Sample A Garment Industry</b>			
<b>Determinants of Firm Performance</b>	<b>Expected Sign</b>	<b>Observed Sign</b>	<b>Broad Pillars</b>
Structure Conduct Performance			
Degree of Competition	Negative	Negative (significant)	<b>Economic Structure</b>
Firm Size (Large)	Positive	Positive (significant)	
Foreign Ownership	Positive	Positive (significant)	
<b>Efficient Structure Hypothesis</b>			
Capital Intensity	Positive	Negative (significant)	<b>Human Capital</b>
Unskilled Workforce	Negative	Negative (insignificant)	
<b>Other Determinants</b>			
Political Instability (Obstacle)	Negative	Negative (significant)	<b>Governance</b>
Corruption (Obstacle)	Negative	Positive (insignificant)	<b>Governance</b>
Electricity (Obstacle)	Negative	Negative (significant)	<b>Infrastructure</b>
Macroeconomic Uncertainty	Negative	Positive (significant)	
Access to Finance (Obstacle)	Negative	Negative (significant)	<b>Infrastructure</b>
Labour Regulations (Obstacle)	Negative	Positive (significant)	<b>Governance</b>
Business Permit (Obstacle)	Negative	Negative (insignificant)	<b>Governance</b>
<b>Sample B Fabricated Metal Industry</b>			
<b>Determinants of Firm Performance</b>	<b>Expected Sign</b>	<b>Observed Sign</b>	<b>Broad Pillars</b>
Structure Conduct Performance			
Degree of Competition	Negative	Negative (significant)	<b>Economic Structure</b>
Firm Size (Large)	Positive	Positive (significant)	
Foreign Ownership	Positive	Positive (significant)	
<b>Efficient Structure Hypothesis</b>			
Capital Intensity	Positive	Negative (insignificant)	<b>Human Capital</b>
Skilled Workforce	Positive	Positive (significant)	
<b>Other Determinants</b>			
Political Instability (Obstacle)	Negative	Positive (insignificant)	<b>Governance</b>
Corruption (Obstacle)	Negative	Negative (insignificant)	<b>Governance</b>
Electricity (Obstacle)	Negative	Negative (significant)	<b>Infrastructure</b>
Macroeconomic Uncertainty	Negative	Positive (insignificant)	
Access to Finance (Obstacle)	Negative	Negative (significant)	<b>Infrastructure</b>
Labour Regulations (Obstacle)	Negative	Positive (significant)	<b>Governance</b>
Business Permit (Obstacle)	Negative	Positive (insignificant)	<b>Governance</b>
<b>Sample C Wood and Furniture Industry</b>			
<b>Determinants of Firm Performance</b>	<b>Expected Sign</b>	<b>Observed Sign</b>	<b>Broad Pillars</b>
Structure Conduct Performance			
Degree of Competition	Negative	Negative (significant)	<b>Economic Structure</b>
Firm Size (Large)	Positive	Positive (insignificant)	
Foreign Ownership	Positive	Positive (significant)	
<b>Efficient Structure Hypothesis</b>			
Capital Intensity	Positive	Positive (insignificant)	<b>Human Capital</b>
Skilled Workforce	Positive	Positive (significant)	
<b>Other Determinants</b>			
Political Instability (Obstacle)	Negative	Positive (insignificant)	<b>Governance</b>
Corruption (Obstacle)	Negative	Negative (insignificant)	<b>Governance</b>
Electricity (Obstacle)	Negative	Negative (insignificant)	<b>Infrastructure</b>
Macroeconomic Uncertainty	Negative	Positive (insignificant)	
Access to Finance (Obstacle)	Negative	Negative (significant)	<b>Infrastructure</b>
Labour Regulations (Obstacle)	Negative	Positive (insignificant)	<b>Governance</b>
Business Permit (Obstacle)	Negative	Negative (significant)	<b>Governance</b>



### 7.3 CONCLUSION

This chapter was developed to investigate the determinants of firm performance in SSA manufacturing firms. The investigation sets out to achieve 2 main aims. Firstly, the determinants of firm performance were investigated in relation to market structure and environmental obstacles. The second aim was to ascertain how some of the factors that determine FDI equally influence firm performance. All the analyses were carried out using OLS regression on a sample of manufacturing firms in SSA for the period 2007. Also, all the data used were collected from the World Bank Enterprise Survey. The findings of the analyses showed that quality of human capital impacts positively on firm financial performance. Also, firms associated with foreign ownership and are larger in size enjoy higher profitability rates. On the other hand, competition, capital intensity, poor electricity delivery, and access to finance have negative impact of firm performance. Corruption and political instability (except for garments industry) have insignificant relationships with firm financial performance.

Findings from the investigations showed that the broad pillars influence the performance of the industries used. However, economic structure, infrastructure and human capital are robust different industries. Regarding the economic structure and the positive impact of foreign ownership on firm performance, the findings can further support the relationship of FDI, Lewis turning point and the investment development path nexus. Since firms that are identified with foreign ownership have shown to perform better, creating an environment attractive to foreign investors in the region's manufacturing sector can boost the ownership advantages of domestic firms through spillover effects. Thus, in the long run, domestic firms will be able to compete effectively, penetrate foreign markets, and absorb the excess labour from less productive sectors. These processes are all necessary for a country to attain the Lewis turning point as well as, progress along the development path. With respect to

some governance variables (political instability and corruption), the findings not being robust and consistent with literature can be linked to the distinctive nature of the region. However, these inconsistencies by no means do not suggest that political instability and corruption do not impede on firm performance.

## **CHAPTER EIGHT**

### **ECONOMIC GROWTH**

#### **DATA AND RESULTS**

##### **8.1 INTRODUCTION**

This chapter investigates the impact of FDI on economic growth in Sub-Saharan Africa (SSA) where other growth determinants are controlled. Having investigated the determinants of FDI in SSA in Chapter 8, it is therefore of importance to investigate the impact FDI has on economic growth in SSA. The investigation was carried out using panel data estimation techniques on a sample of SSA period for the period 1996-2010. The hypotheses that were tested, methodology used, and variables employed will be explained in detail before the analyses. Amongst other findings, the stock of FDI was insignificantly related to economic growth.

##### **8.2 IMPACT OF FDI ON ECONOMIC GROWTH**

###### **8.2.1 OVERVIEW OF THE ANALYSIS**

The investigation on the impact of FDI on economic growth used panel data techniques on a sample of SSA countries. The findings showed that agricultural output, governance, merchandise exports, total official flows and fixed capital formation positively influence growth. On the other hand, external debt stock negatively and significantly impacts on SSA growth. Surprisingly, stock of FDI and natural resources as measured by crude oil production and natural resource rent have no significant impact on growth. Further analyses revealed that in order to ensure that these factors are positive significant determinants of

growth in the region, minimum threshold requirements are needed in terms of governance and basic formal education.

## **8.2.2 HYPOTHESIS DEVELOPMENT**

The framework for the hypotheses will be developed according to the theories of economic growth. The Neoclassical growth theories outlines the importance of investment to economic growth; the Endogenous growth theories emphasise the importance of human capital and innovation; and the Myrdal's and New Economic growth theories which highlight the role of non-economic factors.

### **8.2.2.1 Foreign Direct Investment and Economic Growth**

FDI can impact on economic growth through its effects on technology transfer, human/physical capital, jobs creation and skill formation (Roy and Berg, 2006). Though, these spillover effects equally depend on the economic environment of the host economy (Kotrajaras, 2010). The study nevertheless, hypothesises a positive relationship between FDI and economic growth in the region. The hypothesis is further justified due to the facts that with the huge resource gap in the region, FDI will help bridge the gap and thus, stimulate growth; FDI embodies elements of the neo-classical and endogenous growth models; and that most empirical studies on the determinants of growth for developing countries do outline and show the importance of FDI on economic growth.

***H1. There is a positive relationship between FDI and economic growth***

### **8.2.2.2 Saving Rates and Economic Growth**

According to Harrod-Domar growth model, countries can grow faster by saving more because all things being equal, countries with higher rates of saving will have more capital

per worker, higher per capita income, and higher labour productivity. Savings can also influence economic growth by freeing up resources that can be used to increase the productive capacity of a country through the accumulation of capital for production such as equipment, machinery and buildings.

***H2. Saving rates have a positive impact on economic growth***

**8.2.2.3 Government Consumption and Economic Growth**

There have been huge controversies on the impact of government consumption on economic growth. Some argue that government provide vital public goods such as health, education, security, infrastructure, etc. which are essential for private investment and thus beneficial to growth (Ghura, 1995). On the other hand, some argue that increasing government consumption is usually accompanied by increasing taxes and increasing monetisation of the deficit, all of which crowd out private investment, increase inefficiency, unbalance resource allocation and thus impede growth (Anwar and Nguyen, 2010). Besides these, increasing government expenditure in highly corrupt countries is often associated with inefficiency and looting of public goods. Considering the region under review, the first argument is most likely not to be the case where governments neglect spending on essential public goods (health, education, security, infrastructure improvement, etc.) in favour of unproductive consumption that are difficult to monitor due to the high levels of corruption.

***H3. Government consumption has a negative relationship with economic growth.***

**8.2.2.4 Aid and Economic Growth**

There is little consensus on the relationship between aid and economic growth. Whilst some have argued for the positive impact aid has on poverty alleviation and economic

development, others have argued to the contrary. However, most empirical evidence points to a positive relationship between aid and economic growth (Minoiu and Reddy, 2010; Collier and Dollar, 2002; Cogneau and Naudet, 2007; Rajan and Subramanian, 2008).

***H4. Aid will have a positive impact on economic growth***

#### **8.2.2.5 Capital Formation, Investment in Infrastructure and Economic Growth**

The neo-classical growth model suggests that accumulation or increases in the stock of capital enhance productivity and long term economic growth. Thus, economies that are able to accumulate capital will be more productive compared to those that are deficient in capital accumulation (Ugochukwu and Chinyere, 2013). Similarly, the provision of quality infrastructure is another way through which economic growth can be promoted. Increases in infrastructure can raise the steady state level of economic output since it is regarded as public good (Sanchez-Robles, 1998).

***H5. Capital formation and investment in infrastructure is positively related to economic growth***

#### **8.2.2.6 Exports and Economic Growth**

There have been huge interest in the relationship between exports and economic growth in developing countries. A number of studies have investigated the role exports play in economic growth or the export-led-growth hypothesis (Ekanayake, 1999). This hypothesis is developed from the following. First, most of the empirical studies and literature on developing countries are in favour of the export-led growth (ELG). Second, since import substitution has not been effective for growth, most developing countries have adopted the export promotion strategy (Shirazi and Manap, 2004). Third, part of the agenda of the

Structural Adjustments Programmes by the World Bank and IMF was trade liberalisation which will attract foreign investment, enhance positive spillover effects and thus increase export values.

***H6. There is a positive relationship between exports and economic growth***

#### **8.2.2.7 External Debt and Economic Growth**

A country characterised by high debt relative to available resources is likely to exhibit relatively low productive investment which is detrimental to economic growth (Fosu, 1996; Checherita-Westphal and Rother, 2012; Afonso and Jalles, 2013). It is generally suggested that external debt has burdened SSA countries due to over-borrowing, inherited debt, and the high cost of debt and inability to repay. Inherited debt and excessive debt repayment can serve as a tax on future output and thus, reduce the incentive for savings and funds available for investments. External debt can also impede the productivity of investments as well as cause decreased spending on important determinants of economic growth such as health, education and infrastructure (Fosu, 1996; Fosu, 1999).

***H7. High external debt has a negative relationship with economic growth***

#### **8.2.2.8 Human Capital Accumulation and Economic Growth**

This hypothesis is based on the following facts. First, the diffusion of human capital activities not only helps in the production of new knowledge but also its transmission enhances other growth determining factors. Second, the rate of return on education relative to its impact on economic growth is more than that of physical capital. This is because earnings from human capital accumulation are not fixed as they grow over time (Mincer, 1984). Third, human capital accumulation helps in narrowing the technological gap between

developing and advanced countries through absorptivity capacity (Barro, 2001). Fourth, education has been embraced by most countries in the region as part of the UN Millennium Goals since it has been established as a vehicle in the reduction of poverty and inequality. Besides reducing poverty and inequality, education can lead to higher complementarity between workers, which leads to higher productivity and economic growth (human capital externalities).

***H8. There is a positive relationship between human capital accumulation and economic growth***

#### **8.2.2.9 Quality of Governance and Economic Growth**

Political instability impedes economic growth, as conflicts, violence, terrorism, repressive regimes, etc. lower security for life and prosperity and therefore lower productive investment due to uncertainties about returns. Also, during conflicts/wars so much of the limited financial and human resources are channelled toward military activities rather than toward effective production of civilian goods and services (Ghura, 1995). Similarly, corruption, which impacts negatively on economic growth, income distribution, resource allocation, technical progress, efficiency, and social welfare is endemic in the region. Channels through which corruption acts are: 1). decreased investment in physical capital; 2). Expenditure directed towards non-resourceful projects; 3). and the diversion of public resources/goods; etc. (Gyimah-Brempong, 2002).

***H9. The quality of governance has a positive impact on economic growth***



#### **8.2.2.10 Natural Resources and Economic Growth**

Natural resource booms can positively impact on economic growth especially in developing and poor countries where demand and industrialisation is low (Sachs and Warner, 1999). Natural resources are potential sources of national wealth and income from savings can be generated and used for infrastructure development, human capital development and health, all of which support increased output levels (Papyrakis and Gerlagh, 2004). Also, natural resources can facilitate participation in international trade and if effectively managed can help diversify an economy into other productive sectors (Douangngeune et al, 2005).

*H10. The abundance of natural resources has a positive impact on economic growth*

#### **8.2.2.11 Landlocked Nations and Economic Growth**

Geographically isolated countries, especially with respect to world markets, could face higher costs for all internationally transactions, which can lead to lower output per capita (Sachs and Warner, 1997). This can also hamper export activities as well as the importation of goods used as intermediaries for production (Naude, 2004).

*H11. Landlocked countries will exhibit lower economic growth rates*

### **8.2.3 RESEARCH METHODOLOGY**

This section will provide insight on the research design employed in this particular analysis. Firstly, the sample countries used for the analysis will be presented. Secondly, variable description will be presented. Thirdly, the preliminary data analysis will be carried out. Fourthly, the models will be estimated and specified.

### 8.2.3.1 Sample Countries

Table 36 shows the sample of countries used in the analysis. The initial sample comprised of all SSA countries however, due to missing data and an outlying observation, the eventual analyses was based on 35 countries. For example, countries like Togo, Zimbabwe, Liberia, etc. had so many gaps and Equatorial Guinea was eliminated as a result of being an outlier.

**Table 36 Sample Countries**

Angola	Central African Republic	Guinea	Mauritius	Senegal
Benin	Chad	Kenya	Mozambique	South Africa
Botswana	Cote d'Ivoire	Lesotho	Namibia	Swaziland
Burkina Faso	Democratic Republic of the Congo	Madagascar	Niger	Tanzania
Burundi	Ethiopia	Malawi	Nigeria	The Gambia
Cameroun	Gabon	Mali	Republic of the Congo	Uganda
Cape Verde	Ghana	Mauritania	Rwanda	Zambia

### 8.2.3.2 Variable Description

All the data used for this study are from secondary sources. Economic growth was measured using the growth rate of GDP. The data were collected from the World Development Indicators, UNCTAD, World Bank Governance Indicators, and the United States Energy Statistics. Data definitions and sources are in Table 37.

**Table 37 Variable Definitions**

GDP Growth Rate (Dependent Variable)	Annual % growth rate of GDP. GDP is the sum of gross value added by all resident producers plus any product taxes minus any subsidies (WDI, 2012)	<b>Broad Pillars</b>
Stocks of FDI (Log)	Captures the accumulated value of FDI inflows over a period of time (UNCTAD, 2012)	
<b>Neoclassical Growth Theories</b>		
Domestic Saving (% of GDP)	Measures the difference between GDP and total consumption (WDI, 2012)	
Merchandise Exports	Measures the growth rate in the value of the international movement of tradable goods across custom borders	<b>Economic/Market Structure</b>
Total Official Flows (Log)	Refers to the amount of foreign aid both private and public, that a country receives (UNCTAD, 2012)	
	Raw materials used in production or consumption	

	i. Crude oil production (in million barrels per day)	
Natural Resources	ii. Total natural resources rents (sum of oil rents, natural gas rents, coal rents, and mineral rents) iii. Agriculture, value added (net output of the agricultural sector - forestry, hunting, fishing, crops and livestock, after adding up all outputs and subtracting intermediate inputs) (US Energy Statistics, 2013; WDI, 2012)	
Fixed Capital Formation (% of GDP)	Refers to the net additions to the fixed assets of the economy. Fixed assets include land improvements, plant, machinery, equipment, and construction (WDI, 2012)	<b>Infrastructure</b>
Investment in Infrastructure (Log)	Is the amount of money in US dollars invested in infrastructure (electricity, water, transportation)	<b>Infrastructure</b>
<b>Endogenous Growth Theories</b>		
	i. Enrolment rate in formal education (ratio of secondary to primary), regardless of age	<b>Human Capital</b>
Education	Percentage of population (15+) who meet the ILO definition of economically active people (WDI, 2012)	<b>Human Capital</b>
<b>Other Growth Determinants</b>		
External Debt Stock (% of GNI)	Refers to the public, publicly guaranteed, and private non-guaranteed long-term debt owed to non-residents which are payable in currency, goods, or services	<b>Governance</b>
Government Consumption (% of GDP)	Refers to all government current expenditures for the purchases of goods and services (including compensation of employees) and most expenditures on national defense	<b>Governance</b>
	i. Political stability (Measure of the likelihood of government being overthrown or destabilised by unlawful means)	<b>Governance</b>
Quality of Governance	ii. Control of corruption (The extent to which the misuse of power for private gain is controlled)	<b>Governance</b>
	(WGI, 2012)	

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### 8.2.3.3 Preliminary Analysis

A preliminary regression to check for outliers was carried out. The regression reveals that one of the countries in the sample was an outlier and thus, to avoid biased estimates it was excluded from subsequent analysis. The Chow test which is a statistical test to check if sub-regional groups in SSA are behaviourally and structurally different in their growth determinants was equally carried out. The test revealed no behavioural or structural

difference thus the whole sample was pooled together. That is, the null hypothesis of no structural and behavioural differences between the sub-regions was not rejected since the F Test value of 1.811 is only less than the F distribution at the 10% (1.49), 5%(1.67) but not at the 1%(2.04) critical values. Due to high internal consistency between control of corruption, political stability, and government effectiveness as evident by the value of the Cronbach's alpha, the three variables were factored and thus, renamed as quality of governance.

From the summary statistics (tables 38), it is clear that the SSA exhibits on average a low GDP growth rate though this is better compared to the average negative growth rates of the 1970s and 1980s. Also, surprising is the two extremes of -12.674 and 33.629. Government consumption, external debt stock, and savings are other variables with disproportionate and surprising statistics. The correlation coefficients (table 39) show no serious collinearity between the variables.

**Table 38 Summary Statistics**

Variable	Mean	Std. Dev.	Min	Max
GDP Growth Rate	4.626	4.005	-12.674	33.629
Stock of FDI (Log)	8.968	0.726	7.204	11.122
Natural Resource Rent (% of GDP)	11.441	16.437	0.006	78.552
Agriculture, Value Added (% of GDP)	3.472	8.114	-43.933	55.033
Crude Oil Production (in million barrels/day, (Log)	1.433	2.279	0.000	6.420
Primary and Secondary School Enrolment Rate	0.666	0.193	0.078	0.925
Labour Force (15+, Log)	6.542	0.577	5.155	7.701
Total Official Flows (Log)	8.328	1.216	2.301	9.827
Investment in Infrastructure (in US \$, Log)	5.426	3.640	0.000	9.763
Government Consumption (% of GDP)	15.005	7.265	2.675	42.950
Domestic Saving (% of GDP)	11.340	15.742	-50.016	59.310
Fixed Capital Formation (% of GDP)	20.732	8.200	2.100	76.693
External Debt Stock (% of GNI)	73.829	60.553	3.378	351.603
Quality of Governance	0.001	0.941	-1.551	2.223
Growth Rate in Merchandise Exports	12.941	31.067	-62.250	382.999
Employment Rates	66.225	12.481	36.700	86.500

### 8.3.3.4 Models and Estimation

This analysis uses panel data techniques on a sample of 35 SSA countries for the period 1996-2010. Pooled OLS, fixed effects and GMM estimations were used for the

investigation. The random effect was rejected as confirmed by the Hausman test. The modelling techniques used will reduce biased estimates as well as avoid severe misspecification because they allow for variation in characteristics relating to these countries both cross-sectionally and over time. Also, given huge disparity between the variables as revealed in the summary statistics, employing panel estimation techniques will correct unobserved heterogeneity. In-depth discussions on pooled OLS and fixed effects are in chapter 6.

**Table 39 Correlation Matrix**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 GDP Growth Rate	1															
2 Stock of FDI (Log)	0.140	1														
3 Natural Resource Rent (% of GDP)	0.084	0.318	1													
4 Agriculture, Value Added (% of GDP)	0.274	0.069	0.053	1												
5 Crude Oil Production (in million barrels/day, (Log)	-0.005	0.512	0.721	0.063	1											
6 Primary and Secondary School Enrolment Rate	0.093	-0.286	0.211	0.073	-0.045	1										
7 Labour Force (15+, Log)	0.105	0.424	0.037	0.090	0.231	0.297	1									
8 Total Official Flows (Log)	0.184	0.101	-0.246	0.011	-0.211	0.153	0.363	1								
9 Investment in Infrastructure (in US \$, Log)	-0.048	0.425	0.069	0.041	0.200	-0.091	0.287	0.118	1							
10 Government Consumption (% of GDP)	0.074	-0.040	-0.026	0.015	-0.151	-0.197	-0.358	-0.025	-0.058	1						
11 Domestic Saving (% of GDP)	0.053	0.329	0.538	0.018	0.467	-0.181	-0.086	-0.238	0.107	-0.221	1					
12 Fixed Capital Formation (% of GDP)	0.183	0.212	0.017	0.027	0.000	-0.267	-0.187	-0.065	0.066	0.286	-0.009	1				
13 External Debt Stock (% of GNI)	-0.207	-0.231	0.248	-0.058	0.157	0.367	0.037	-0.015	-0.231	-0.120	-0.008	-0.225	1			
14 Quality of Governance	0.069	-0.012	-0.493	-0.053	-0.367	-0.617	-0.410	-0.041	0.048	0.341	-0.012	0.390	-0.400	1		
15 Growth Rate in Merchandise Exports	0.402	0.136	0.170	-0.001	0.096	0.033	0.019	0.035	-0.039	-0.023	0.100	0.109	-0.088	-0.070	1	
16 Employment Rates	0.136	-0.330	0.000	0.121	-0.208	0.569	0.341	0.235	-0.077	-0.141	-0.118	-0.269	0.168	-0.382	0.029	1

#### 8.2.3.4.1 Generalised Methods of Moments Estimation (GMM)

The GMM estimator is a dynamic panel data technique that can be used to improve the standard estimators (pooled OLS and fixed effects) especially when auxiliary assumptions fail. The technique is convenient for controlling basic unobserved effects model, for example, models where there is interaction between unobserved heterogeneity and observed covariates. Similarly, it is also applied to unobserved effects models when the explanatory variables are not strictly exogenous even after controlling for unobserved effects. GMM is also efficient in estimating a model that contains a lagged variable along with an unobserved effect and controlling for the serial correlation. In this instance, the lags two are used as instrumental variables for the differenced lagged dependent variable (Wooldridge, 2001). As argued by Bond (2002) even when coefficient of lagged dependent variables are not of direct interest, allowing for dynamics in the underlying process can be very important for recovering consistent estimates of other parameters.

### 8.2.4 RESULTS AND DISCUSSION

This section will discuss the empirical results of the impact of FDI on economic growth in SSA. The main aims of this section are as follows: 1). to examine if FDI is a source of economic growth in SSA; and 2). to investigate the factors have been responsible for the onward growth recovery of SSA countries. The estimating equation can be expressed as

$$y_{it} = \alpha_i + \beta X_{it} + \mu_i + v_{it} \quad (1)$$

where  $y$  is GDP growth rate in country  $i$  at time  $t$ ,  $X$  is a matrix of independent variables and  $\alpha$  and  $\beta$  are coefficients to be estimated.  $\mu_i$  and  $v_{it}$  represent the decomposed disturbance term where  $\mu_{it}$  are country specific effects and  $v_{it}$  are random errors distributed (Gujarati, 2004).

In addition to the fixed effects, the Arellano-Bover/Blundell-Bond GMM will allow for more instrumentation and thus, better efficiency. First, the Arellano-Bond estimation transforms all regression by differencing using the GMM, which is then known as Difference GMM. Furthermore, the Arellano-Bond will be augmented by making additional assumption that first differences of instrument variables are uncorrelated with the fixed effects (Roodman, 2009). The estimating equation can be expressed as

$$I_{it} = \beta_1 I_{i,t-1} + \beta_2 I_{i,t-2} + \beta_3 X_{it} + \mu_{it} \quad (2)$$

$I$  is GDP growth rate and  $I_{i,t-1}$  and  $I_{i,t-2}$  are the lagged value of GDP growth rate in country  $i$  at time  $t$ ,  $X_{it}$  is a matrix of independent variables,  $K_{it}$  is a matrix of the components of the dependent variables

Equation (1) was first estimated using OLS on the pooled sample (table 40) and then followed by the panel fixed effects estimation (table 41). Finally, equation (2) was estimated using GMM (table 42).

#### 8.2.4.1 Empirical Findings

This section will discuss the empirical results of the impact of FDI on economic growth in SSA. The main aims of this section are as follows: 1). to examine if FDI is a source of economic growth in SSA; and 2). to investigate the factors have been responsible for the onward growth recovery of SSA countries. The estimating equation can be expressed as

$$y_{it} = \alpha_i + \beta X_{it} + \mu_i + v_{it} \quad (1)$$

where  $y$  is GDP growth rate in country  $i$  at time  $t$ ,  $X$  is a matrix of independent variables and  $\alpha$  and  $\beta$  are coefficients to be estimated.  $\mu_i$  and  $v_{it}$  represent the decomposed disturbance



term where  $\mu_{it}$  are country specific effects and  $v_{it}$  are random errors distributed (Gujarati, 2004).

In addition to the fixed effects, the Arellano-Bover/Blundell-Bond GMM will allow for more instrumentation and thus, better efficiency. First, the Arellano-Bond estimation transforms all regression by differencing using the GMM, which is then known as Difference GMM. Furthermore, the Arellano-Bond will be augmented by making additional assumption that first differences of instrument variables are uncorrelated with the fixed effects (Roodman, 2009). The estimating equation can be expressed as

$$I_{it} = \beta_1 I_{i,t-1} + \beta_2 I_{i,t-2} + \beta_3 Kit + \beta_4 X_{it} + \mu_{it} \quad (2)$$

$I$  is GDP growth rate and  $I_{i,t-1}$  and  $I_{i,t-2}$  are the lagged value of GDP growth rate in country  $i$  at time  $t$ ,  $X_{it}$  is a matrix of independent variables,  $Kit$  is a matrix of the components of the dependent variables

The results are in Tables 40, 41 and 42. Pooled OLS in table 40 will be the least preferred estimation and thus better consistency will be ascribed to the results in tables 41 and 42. This is due to the advantages the fixed effects and the dynamic panel model (GMM) possess over pooled OLS. To relax the assumptions that the error terms were both independent and identically distributed, a Breusch-Pagan/Cook-Weisberg Test for heteroskedasticity was applied in order to maintain this assumption.

**Table 40 Pooled OLS Estimations (Robust standard errors in parentheses)**

<b>GDP Growth Rate Dependent Variable</b>	<b>Pooled OLS</b>	<b>Pooled OLS</b>	<b>Pooled OLS</b>	<b>Pooled OLS</b>	<b>Pooled OLS</b>
<b>Independent Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>
<b>Stock of FDI (Log)</b>	0.157 (0.288)	0.199 (0.285)	0.060 (0.288)	0.093 (0.288)	0.159 (0.316)
<b>Natural Resource Rent (% of GDP)</b>	0.057*** (0.018)	0.057*** (0.018)	0.011 (0.018)	0.052*** (0.017)	0.057*** (0.018)
<b>Agriculture, Value Added (% of GDP)</b>	0.119*** (0.023)	0.121*** (0.023)	0.117*** (0.023)	0.118*** (0.023)	0.119*** (0.023)
<b>Crude Oil Production (in million barrels/day, (Log)</b>	-0.085 (0.091)	-0.048 (0.095)	-0.077 (0.090)	-0.114 (0.093)	-0.086 (0.092)
<b>Primary and Secondary School Enrolment Rate</b>	4.488*** (1.171)	4.427*** (1.178)	5.429*** (1.237)	4.436*** (1.177)	4.394 (2.937)
<b>Labour Force (15+, Log)</b>	0.984*** (0.357)	0.960*** (0.357)	0.941*** (0.355)	1.071*** (0.365)	0.981*** (0.367)
<b>Total Official Flows (Log)</b>	0.539*** (0.135)	0.541*** (0.136)	0.475*** (0.119)	0.546*** (0.132)	0.539*** (0.135)
<b>Investment in Infrastructure (in US \$, Log)</b>	-0.182*** (0.050)	-0.180*** (0.049)	-0.169*** (0.048)	-0.179*** (0.049)	-0.182*** (0.049)
<b>Government Consumption (% of GDP)</b>	0.012 (0.027)	0.006 (0.029)	-0.009 (0.028)	0.008 (0.026)	0.008 (0.127)
<b>Fixed Capital Formation (% of GDP)</b>	0.034 (0.022)	0.035 (0.023)	0.040* (0.022)	0.033 (0.023)	0.034 (0.022)
<b>External Debt Stock (% of GNI)</b>	-0.013*** (0.003)	-0.012*** (0.003)	-0.013*** (0.003)	-0.013*** (0.003)	-0.013*** (0.003)
<b>Quality of Governance</b>	1.272*** (0.251)	1.342*** (0.262)	1.672*** (0.313)	1.470*** (0.298)	1.273*** (0.250)
<b>Growth Rate in Merchandise Exports</b>	0.044*** (0.014)	0.043*** (0.014)	0.044*** (0.014)	0.044*** (0.014)	0.044*** (0.014)
<b>Landlocked (Dummy)</b>		0.377 (0.399)			
<b>Natural Resource Rent * Quality of Governance</b>			-0.056*** (0.021)		
<b>Crude Oil Production (Log) * Quality of Governance</b>				-0.140* (0.072)	
<b>Primary and Secondary School Enrolment Rate * Government Consumption (% of GDP)</b>					0.006 (0.184)
<b>Cons</b>	-11.179*** (2.906)	-11.570*** (2.916)	-9.834*** (2.820)	-11.099*** (2.864)	-11.114*** (3.185)
<b>No. of Obs.</b>	525	525	525	525	525
<b>F Stat</b>	16.27	15.08	15.27	14.97	15.26
<b>Prob. &gt; F</b>	0.0000	0.0000	0.0000	0.0000	0.0000
<b>R-Squared</b>	0.3737	0.3750	0.3855	0.3774	0.3737

\*Significance at the 90% Level; \*\*Significance at the 95% Level; \*\*\*Significance at the 99% Level

**Table 41 Fixed Effects Estimations (Robust standard errors in parentheses)**

<b>GDP Growth Rate Dependent Variable</b>	<b>Double Fixed Effects Model 1</b>	<b>Double Fixed Effects Model 2</b>	<b>Double Fixed Effects Model 3</b>	<b>Double Fixed Effects Model 4</b>	<b>Double Fixed Effects Model 5</b>
<b>Independent Variables</b>					
Stock of FDI (Log)	0.54 (0.838)	0.472 (0.839)	0.471 (0.847)	4.852*** (1.549)	0.491 (0.839)
Natural Resource Rent (% of GDP)	0.009 (0.052)	-0.027 (0.056)	0.023 (0.051)	0.023 (0.053)	0.013 (0.053)
Agriculture, Value Added (% of GDP)	0.101*** (0.023)	0.102*** (0.023)	0.101*** (0.023)	0.100*** (0.023)	0.099*** (0.023)
Crude Oil Production (in million barrels/day, (Log)	0.336 (0.302)	0.312 (0.305)	0.302 (0.314)	0.247 (0.315)	0.327 (0.303)
Primary and Secondary School Enrolment Rate	5.021 (3.461)	4.968 (3.471)	5.239 (3.469)	57.478*** (17.012)	8.065 (5.030)
Total Official Flows (Log)	0.374** (0.147)	0.371** (0.146)	0.377** (0.149)	0.306** (0.146)	0.383** (0.149)
Investment in Infrastructure (in US \$, Log)	-0.098 (0.059)	-0.098 (0.060)	-0.103* (0.059)	-0.087 (0.059)	-0.099* (0.060)
Government Consumption (% of GDP)	-0.065 (0.060)	-0.071 (0.061)	-0.052 (0.062)	-0.063 (0.060)	0.072 (0.187)
Domestic Saving (% of GDP)	0.016 (0.034)	0.016 (0.034)	0.018 (0.033)	0.012 (0.033)	0.013 (0.034)
Fixed Capital Formation (% of GDP)	0.046* (0.026)	0.048* (0.026)	0.044* (0.025)	0.043* (0.026)	0.046* (0.026)
External Debt Stock (% of GNI)	-0.016*** (0.006)	-0.016*** (0.006)	-0.015** (0.006)	-0.018*** (0.006)	-0.016*** (0.006)
Quality of Governance	1.406*** (0.536)	1.629*** (0.612)	1.013 (0.649)	1.465*** (0.526)	1.399*** (0.535)
Growth Rate in Merchandise Exports	0.039*** (0.013)	0.039*** (0.013)	0.039*** (0.013)	0.039*** (0.013)	0.039*** (0.013)
Employment Rates	0.127 (0.128)	0.138 (0.128)	0.127 (0.128)	0.089 (0.129)	0.109 (0.130)
Natural Resource Rent * Quality of Governance		-0.033 (0.039)			
Crude Oil Production (Log) * Quality of Governance			0.229 (0.165)		
Stock of FDI (Log) * Primary and Secondary School Enrolment Rate				-5.727*** (1.757)	
Primary and Secondary School Enrolment Rate * Government Consumption (% of GDP)					-0.202 (0.253)
Cons	-12.741 (15.277)	-12.656 (15.193)	-12.206 (15.309)	-47.956** (19.238)	-12.637 (15.285)
No. of Obs.	525	525	525	525	525
F Stat	8.62	8.60	8.50	8.72	8.53
Prob. > F	0.0000	0.0000	0.0000	0.0000	0.0000
R-Squared	0.4971	0.4980	0.4990	0.5044	0.4979

\*Significance at the 90% Level; \*\*Significance at the 95% Level; \*\*\*Significance at the 99% Level

**Table 42 GMM Estimations (Arellano Bond) with Robust Standard Errors**

<b>GDP Growth Rate</b>	<b>GMM</b>	<b>GMM</b>	<b>GMM</b>	<b>GMM</b>	<b>GMM</b>
<b>Dependent Variable</b>	<b>Arellano</b>	<b>Arellano</b>	<b>Arellano</b>	<b>Arellano</b>	<b>Arellano</b>
<b>Independent Variables</b>	<b>Bond</b>	<b>Bond</b>	<b>Bond</b>	<b>Bond</b>	<b>Bond</b>
	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>	<b>Model 5</b>
<b>GDP Growth Rate, Lagged One Year</b>	0.174** (0.075)	0.169** (0.078)	0.175** (0.075)	0.167** (0.079)	0.165** (0.073)
<b>GDP Growth Rate, Lagged Two Years</b>	-0.059 (0.051)	-0.063 (0.049)	-0.057 (0.052)	-0.070 (0.049)	-0.066 (0.054)
<b>Stock of FDI (Log)</b>	0.262 (1.489)	0.298 (1.472)	0.193 (1.441)	5.808* (3.414)	0.239 (1.462)
<b>Natural Resource Rent (% of GDP)</b>	0.011 (0.050)	-0.026 (0.097)	0.009 (0.053)	0.013 (0.047)	0.014 (0.051)
<b>Agriculture, Value Added (% of GDP)</b>	0.114*** (0.026)	0.113*** (0.027)	0.114*** (0.027)	0.109*** (0.026)	0.109*** (0.027)
<b>Crude Oil Production (in million barrels/day, (Log)</b>	0.316 (0.448)	0.329 (0.443)	0.313 (0.457)	0.389 (0.411)	0.272 (0.467)
<b>Primary and Secondary School Enrolment Rate</b>	5.022 (5.035)	4.827 (5.062)	5.321 (5.050)	71.515* (39.004)	11.951 (7.776)
<b>Total Official Flows (Log)</b>	0.081 (0.137)	0.081 (0.139)	0.087 (0.137)	0.039 (0.140)	0.057 (0.122)
<b>Investment in Infrastructure (in US \$, Log)</b>	-0.068 (0.070)	-0.066 (0.069)	-0.074 (0.071)	-0.059 (0.069)	-0.067 (0.069)
<b>Government Consumption (% of GDP)</b>	-0.063 (0.128)	-0.077 (0.127)	-0.059 (0.124)	-0.069 (0.133)	0.238 (0.339)
<b>Domestic Saving (% of GDP)</b>	0.082 (0.053)	0.082 (0.053)	0.084* (0.051)	0.079 (0.052)	0.081 (0.053)
<b>Fixed Capital Formation (% of GDP)</b>	0.059 (0.053)	0.064 (0.049)	0.053 (0.049)	0.049 (0.049)	0.052 (0.054)
<b>External Debt Stock (% of GNI)</b>	-0.040*** (0.012)	-0.040*** (0.012)	-0.040*** (0.012)	-0.040*** (0.012)	-0.040*** (0.013)
<b>Quality of Governance</b>	2.520** (1.233)	2.808* (1.449)	2.394* (1.359)	2.530** (1.124)	2.279** (1.135)
<b>Growth Rate in Merchandise Exports</b>	0.035** (0.016)	0.035** (0.016)	0.035** (0.016)	0.034** (0.016)	0.035** (0.016)
<b>Employment Rates</b>	0.269 (0.202)	0.289 (0.192)	0.249 (0.194)	0.216 (0.208)	0.264 (0.204)
<b>Natural Resource Rent * Quality of Governance</b>		-0.035 (0.062)			
<b>Crude Oil Production (Log) * Quality of Governance</b>			0.163 (0.407)		
<b>Stock of FDI (Log) * Primary and Secondary School Enrolment Rate</b>				-7.292* (4.149)	
<b>Primary and Secondary School Enrolment Rate * Government Consumption (% of GDP)</b>					-0.435 (0.436)
<b>Arellano Bond AR(1)</b>	-3.87	-3.86	-3.89	-3.85	-3.90
<b>Arellano Bond AR(2)</b>	0.91	0.91	0.84	1.08	1.12
<b>Wald Chi2</b>	1098.10	3334.31	2025.23	1415.71	964.01
<b>Sargan (88)</b>	114.79	115.22	115.39	114.56	118.12
<b>Hansen (88)</b>	4.79	1.77	3.77	6.24	4.77

\*Significance at the 90% Level; \*\*Significance at the 95% Level; \*\*\*Significance at the 99% Level

H1 tested the impact of FDI stocks on economic growth. Surprisingly, it was insignificantly related to economic growth in all of the three estimation techniques employed. The results are contrary to the general assumption that FDI will positively and significantly impact on growth. A further analysis suggested an explanation for this. The interaction between FDI and education was negatively significant in the GMM estimation

and positively insignificant in the fixed effects estimation. This shows that SSA countries have not fully attained the required threshold to possibly benefit from the spillover effects of FDI. Another explanation could be that SSA countries for the period investigated have attracted FDI that are not growth enhancing (such as those of cheap labour and raw materials). These arguments to support the insignificant relationship between FDI and economic growth are in accordance with those of Sanjaya and Narula, (2004). Thus, H1 is not accepted. The impact of saving rates on economic growth was tested (H2). The results revealed an insignificant relationship. What these findings possibly imply are that saving rates in the region are too low to influence the investment and productive capacity necessary to enhance growth. H2 is therefore, rejected. H3 tested the relationship between government consumption and economic growth. Results from all the three estimations revealed an insignificant relationship with those of the fixed effects and GMM estimations having negative coefficients. Although, not negative and significant, the results still suggest that lack of spending on productive and beneficial projects by SSA countries is not growth enhancing. To support this claim, education was interacted with government consumption and the results were insignificant with coefficients of the fixed effects and GMM estimates having negative signs. This shows that government consumption on education is still below the required threshold. H3 is however, rejected.

A test of H4 showed that aid is positively significant to economic growth in the pooled OLS and fixed effects models but positive and insignificantly related to economic growth in GMM models. These findings are in line with Chenery and Strout (1966) that aid can fill in to enhance growth where there are resource gaps within an economy. Also, countries in SSA in recent years have received enormous aid targeted towards growth and development causes. Thus, H4 is accepted. Results of the test for H5 showed that capital formation is only positively significant to economic growth in the fixed effects estimation. This shows

that additions and improvements to fixed assets enhance growth possibly through increased productive capacity and higher output per worker. H5 is accepted however, with less robustness. H6 tested the relationship between exports and economic growth. The results showed that the growth rate of merchandise exports was positive and significantly related to economic growth in all three estimations. These findings suggest that openness to international markets and exports influenced growth possibly through better resource allocation, employment generation, and technological advancement. Thus, H6 is clearly accepted. The impact of external debt on economic growth was tested (H7). The results of all three estimations showed that the stock of debt is negative and significantly related to economic growth. The results clearly agree with the notion that excessive debt, inherited debt and high cost of debt especially in less resource efficient economies pose a great burden by reducing spending on important determinants of growth. Thus, H7 is unambiguously accepted.

H8 tested the relationship between human capital and economic growth. Enrolment rate in primary and secondary education and labour force were found to be positively significant in the pooled OLS. Though, enrolment rate was positive in the fixed effects and GMM estimations it was nevertheless, insignificant. These agree with earlier findings that education in SSA has not attained the necessary threshold, and that government consumption towards education needs improving. Based on these findings, H8 is rejected. The impact of quality governance was tested (H9). The results showed positive and significant relationships with economic growth in all of the estimations. This shows that maintaining and improving the level of governance (control of corruption, political stability, and government effectiveness) influence growth positively. Also, international aid donors have in recent times tied aid to significant improvements in governance measures. Therefore, H9 is accepted.

The test of H10 produced mixed and surprising results. Crude oil production was insignificantly related to economic growth in all three estimations. Similarly, rents from natural resources were insignificant in the fixed effects and GMM estimates but positively significant in the pooled OLS estimation. However, value added in agriculture was positive and significant in all of the three estimations. Regarding the insignificance of crude oil production and rents from natural resources, plausible explanations were deduced. First, interactions between crude oil and quality of governance, and rents from natural resources and quality of governance were either negatively significant or insignificant. These findings show that for crude oil and rents from natural resources to significantly influence growth more is needed as regards to quality governance. Quality governance possibly, in the efficient distribution of natural resource wealth and measures that curb instability that arise due to the availability of natural resources. Second, huge natural resource rents can create opportunities for rent-seeking behaviour on a large scale on the part of producers thereby, shifting resources away from more socially and fruitful economic activity (Gylfason and Zoega, 2006). Third, there could be a Dutch disease effect. However, the Dutch disease effect is more of a developed country concept. Based on these findings, H10 is not wholly rejected.

Finally, H11 tested the impact of geography on economic growth. Countries that are landlocked in SSA were assigned a dummy of 1 and countries that are not a dummy of 0. The result showed a positive and insignificant relationship. This is a bit surprising considering that growth in landlocked countries is supposed to be lower. Landlockedness has been identified to affect the growth of a country mostly through higher costs when transacting with world markets. However, classical examples of some landlocked countries with considerable growth rates show to the contrary. Also, in recent years the effect of landlockedness have been cushioned or subsidised by established regional blocs, economic

cooperation and free trade zones in SSA. Examples are Common Market for Eastern and Southern Africa (COMESA), Southern Africa Development Community (SADC), East African Community (EAC), Economic Community of West African States (ECOWAS), and Africa Free Trade Zone (AFTZ).

**Table 43 Summary of Findings**

Theories of Economic Growth	Expected Sign	Observed Sign	Broad Pillars
Stocks of FDI (Log)	Positive	Insignificant	
<b>Neoclassical Growth Theories</b>			
Domestic Saving (% of GDP)	Positive	Insignificant	
Merchandise Exports	Positive	Positive	<b>Economic/Market Structure</b>
Total Official Flows (Log)	Positive	Positive (less robust)	
Natural Resources	Positive	Insignificant	
Fixed Capital Formation (% of GDP)	Positive	Positive (less robust)	<b>Infrastructure</b>
Investment in Infrastructure (Log)	Positive	Negative (less robust)	<b>Infrastructure</b>
<b>Endogenous Growth Theories</b>			
Education	Positive	Insignificant	<b>Human Capital</b>
<b>Other Growth Determinants</b>			
External Debt Stock (% of GNI)	Negative	Negative	<b>Governance</b>
Government Consumption (% of GDP)	Negative	Insignificant	<b>Governance</b>
Quality of Governance	Positive	Positive	<b>Governance</b>
Dummy (Landlocked Countries)	Negative	Insignificant	

## 8.4 CONCLUSION

This chapter was developed to investigate the impact of FDI on the economic growth of SSA countries. Similarly, it investigated what factors have been responsible for the onward growth recovery of the region after so many years of economic decline. The analyses were carried out using panel data techniques (pooled OLS, fixed effects, and GMM) on a sample of 35 SSA countries for the period 1996-2010. All the data used were from secondary sources. Surprisingly, the findings revealed that FDI had an insignificant relationship with economic growth possibly due to the low levels of absorptivity capacity, and the type of FDI the region attracts. Factors that are however, responsible for the region's onward



growth recovery include agricultural output, governance, merchandise exports, total official flows and fixed capital formation. On the other hand, stocks of external debt have negatively and significantly impacted on economic growth in SSA. Other surprising findings are the insignificant relationships between crude oil, rents from natural resources, and economic growth. Further analyses revealed that for crude oil and natural resource rent to positively and significantly influence growth, governance needs to be improved further.

Relating these findings to existing literature shows some conflicting conclusions. However, the findings are reassuring for Sub-Saharan Africa due to the fact that the proxies employed are supported by literature and that the methodology used control for possible endogeneity problems. With respect to the determinants of economic growth in Sub-Saharan Africa, it seems likely that the neoclassical theories and the other growth determinants best explain economic growth. Taking into account the broad pillars, the economic structure and governance are important determinants of growth.

## **CHAPTER NINE**

### **CONCLUSIONS**

#### **9.1 INTRODUCTION**

This chapter will provide the conclusion of this research. This will be presented in the following ways. First, the main objectives of the research will be discussed. Second, the contributions of the research will be discussed. Third, possible policy implications deduced from the research will be discussed. Fourth, a summary of the research methodology employed will be presented. Fifth, possible limitations of the research will be discussed. Lastly, in line with the limitations of the research, potential ways for future research will be identified.

#### **9.2 SUMMARY OF RESEARCH OBJECTIVES**

The research objectives for the study are in 3 main strands. Firstly, was to investigate the determinants of FDI into SSA. The first objective extended by examining how SSA countries compare in their FDI determinants both in their own right and in comparison with another least recipient region of FDI (MENA). Secondly, it investigated the performance of SSA manufacturing firms as regards to market structure and business and environmental factors. The second objective also includes the investigation as to how some of the factors that influence choice of FDI also influence firm performance. That is, foreign investment can only occur if foreign owned firms are able to perform well. Thirdly, it investigated the impact of FDI on the economic growth of SSA. The third objective further extended by

investigating the factors that have been responsible for the onward growth recovery of SSA countries after many years of economic growth stagnation and decline.

### **9.3 RESEARCH CONTRIBUTIONS**

The huge interest in the field of economic development has generated increased research in foreign direct investment and economic growth. Similarly, the concept of the Lewis turning point and the investment development part has of recent, stimulated the roles the manufacturing sector plays in economic development. As a result of these interests, different theories have been developed in both the FDI and economic growth literature. In the early research on FDI, there was a limited theoretical framework and theories were developed independently based on trade theory perspective (Faeth, 2009). These theories aimed to explain why multinationals undertake FDI, the preference of business activities in one country rather than another and the reasons behind the particular mode of entry (Moosa, 2002). The earliest explanation of FDI inflows was from a neoclassical trade theory perspective, however, this was criticised because of its inability to clarify the nature of FDI flows (Faeth, 2009) and was replaced with the concept of oligopoly by Kindleberger (1969) and Hymer (1976) to provide a better explanation of why firms move across borders. In this view, firms will only operate internationally when they possess certain advantages over local firms and where the market to explore these advantages is imperfect (Denisia, 2010).

Similarly, Buckley and Casson (1976) formulated a theory of multinational enterprise within a broad-based intellectual framework defined as internationalisation. This theory suggests that firms internalise markets by bringing the activities linked by the market under common ownership and control and move abroad if the expected benefits exceed the expected costs (Calvet, 1981; Buckley and Casson, 2009). Dunning (1979) combined these two concepts to create the eclectic paradigm, which is a combination of the traditional trade

economics and internalisation theory, which assumes that the likelihood of a firm investing abroad is based on three main factors: the degree to which a firm owns an asset that its competitors do not; whether the firm can benefit from not selling or leasing these assets to other firms; and the level of rents that can be earned by exploiting these assets (Dunning, 1998; Sun et al, 2002; Dunning, 1980). In addition, national policies have had an impact on the determinants of FDI and these have tended to concentrate on attracting investment from abroad rather than emphasise differences in market structure.

FDI can assume an important role in provision of capital for investment, high quality managerial skills and technology transfer while creating employment, increased competition, and export development. All of these enhance opportunities for economic growth and firm productivity, particularly in developing countries (Asiedu, 2002; Assuncao et al, 2011; Akinlo, 2004; Mohamed and Sidiropoulos, 2010; Adams, 2009). Also, FDI can bridge the shortfall caused by low savings ratios and bring valuable foreign exchange into the economy (Ajayi, 2006; Mohamed and Sidiropoulos, 2010). Before now, no study in Sub-Saharan Africa has investigated FDI, firm performance, and economic growth in a coherent way. The research also enables an understanding of the nexus between the core themes of economic development. Also, limited evidence on FDI in SSA exists and available studies do not link firm to country level evidence for any country or region. Investigations carried out in this study have been largely under researched for the SSA region partly due to data availability and the difficulty in the general acceptance of some of the findings. Furthermore, this research is of immense importance not just for SSA countries but also other developing countries. SSA is a developing region hence, any knowledge contributed to literature through this study can be extended to other developing regions.

Regarding the determinants of FDI, a number of contributions were made. Firstly, studies on FDI in SSA have not extensively investigated how the different hypotheses under the

theories of FDI explain FDI activities in SSA and other developing regions. Secondly, no study has addressed the impact strategic asset seeking variables have on (MNEs) decisions to invest in SSA countries as most studies focus on other location influencing factors such as resource seeking, market seeking and efficiency seeking behaviour. That is, other studies are less systematic in their analysis of FDI determinants. Thirdly, no studies of FDI in SSA have incorporated differences between sub-regions that arise from structural and behavioural factors. Fourthly, no study on FDI has investigated the comparison in FDI determinants between the two least recipient regions of FDI. Having used this research to fill some of the gaps in the FDI literature, it is important to know the following: 1). although countries and regions may share the same political, environmental and institutional characteristics, they behaviourally differ in their FDI determinants; 2). all things being equal, SSA countries will receive less FDI inflows compared to the other FDI least recipient region; 3). investigating the impact of the strategic asset variable on FDI in SSA has added an interesting and important dimension as to what is known of the motivation of foreign investors to move into SSA.

Regarding the determinants of firm performance, a number of contributions to the literature were made. Firstly, the hypotheses (structure-conduct-performance hypothesis and efficient-structure hypothesis) of firm performance as well as the business environment firms operate in were used to explain the features that create an environment in which firm can operate and thrive. Although very few studies exist on the determinants of firm performance in SSA, none has used all three (the structure-conduct-performance hypothesis, efficient-structure hypothesis or environmental factors) broad firm performance determinants for their investigations. Secondly, no study in SSA has tried to draw a relationship as to how some of the factors that influence FDI also influence firm performance. The contributions have further enhanced an understanding of firm

performance and FDI in SSA. That is, by addressing some of the factors that influence FDI, some of the factors that influence firm performance are also addressed and vice versa. Also, the manufacturing sector of an economy has an important role to play as an engine for economic growth thus, understanding what factors influence the performance of firms can lead to the efficient allocation resources and an improvement on economic growth.

The contribution to the literature on the economic growth analyses lies in establishing the factors that have been responsible for the economic growth recovery of the region. The years from 1996 have seen promising growth rates for SSA countries after many years of economic decline however, studies have not yet examined the factors that have contributed to this recovery. The contributions to literature this research has progressed have suggested significant and interesting implications to policy makers, entrepreneurs, investors and academicians.

## **9.4 POLICY IMPLICATIONS**

The findings of this research reveal important factors that robustly influence economic development in Sub-Saharan Africa. Having used four broad pillars (economic structure, governance, infrastructure, and human capital) to support the different theories and also to capture some of the variables used in the empirical analyses, it is important to conclude that these factors can effectively stimulate development. However, economic structure has been very robust in determining FDI, firm performance, and economic growth in SSA. This is an important factor as it is very vital for the Lewis turning point and progression along the investment development path. Therefore, based on the findings and contributions of the study, a number of policy implications have been derived. Due to the nature of the research, some of the policy implications can overlap.

First, trade liberalisation and the campaign against corruption and bad governance in SSA have improved the business environment domestically and is a huge incentive for FDI. It is important that these are continually monitored and improved. International organisations and partners can support these efforts at improving and stabilising democratic institutions in SSA and while some countries have only recently addressed these issues many have had policies in place for several years. Regarding trade liberalisation, this is particularly important for the West and Central African countries because it is insignificantly related to FDI. Second, countries in the region endowed with natural resources should pursue policies targeted at full deregulation (privatisation) of their natural resource sector to better utilise the abundance of their natural resources and to attract foreign investment. The conflicts and instability often generated as a result of natural resources must be addressed in order to maximise the exploration and production of natural resources and encourage a fair distribution of the wealth that results. Third, with asset seeking motives strongly related to FDI, state support for human capital accumulation is important as FDI is increasingly directed towards R&D and innovation activity. Thus, asset-seeking FDI's will widen the region's access to new markets, new technologies and product development competencies that result in spillovers from foreign firms to the domestic economy.

Fourth, serious attention should be given to education. Whilst, the West and Central African countries need to pursue policies towards secondary school education, completion rates in primary education is important for FDI in the South and East African countries. However, countries with high levels of low-skilled labour are less likely to be attractive to FDI that is associated with high value-added industries or efficiency and productive seeking FDI's hence, lag behind in economic growth. This is enhanced by the fact that the spillovers flowing to host country firms from FDI to high skilled sectors contribute more value added than that from low-skilled sectors. This is the case for SSA at the moment since findings

show that the pool of human capital in the region has not reached the required threshold to attract or benefit from FDI spillovers. Fifth, countries and sub-regional blocs in SSA must progress with programmes that improve their image as international partners and introduce credible policies targeted at restoring and maintaining global relationships, thus countering the negative perception of SSA as a region in which international investment is inherently risky. Such policies will not only promote FDI but will have direct and indirect benefits on the prosperity of SSA countries. Sixth, similar to the first policy implication, foreign ownership comes with superior experience, better marketing techniques, and technological know-hows. Therefore, it is important that countries in SSA improve their business environments because the presence of foreign firms or their association with domestic firms will spur possible spillovers and/or enhance productivity, profitability and economic value of firms. Attracting foreign investors can help improve the ownership advantages of domestic firms and thus, speed the process of the turning point and the development path. Seventh, the development of financial institutions and markets, and infrastructure should be relentlessly pursued as this will boost credit creation, easier access to finance, and also sustain productive investments. However, efforts toward infrastructure development should be more in the West and Central African countries because it is insignificantly related to FDI.

Eighth, to further boost economic growth, considerable attention should be given to the agricultural sector. In the Lewis model, modern agriculture can also be a channel through which the turning point can be attained. Therefore, farmers and agricultural producers should be empowered with modern techniques of agricultural production. Literature has also identified some changes in the traditional pattern of investment as some foreign investors are diversifying into agriculture especially in developing countries. Therefore, promoting this sector would not only influence economic growth but also attract FDI. Also, since



governance, exports, and aid have been identified as other factors responsible for economic growth recovery in SSA, the need for pursuing market liberalisation, improvements in quality of governance, and strengthening international relations have once again been stressed. Ninth, the region should pursue better debt management practices. When debts are acquired, they should be targeted towards future consumption and longer term investments and not for current consumption because loans acquired for current consumption will have little or no impact on capital formation and economic growth.

## **9.5 LIMITATIONS OF RESEARCH**

Although the research has contributed to knowledge and arrived at important findings, there were however, limitations to the study. First, due to data availability, the sample sizes did not include all SSA countries however the samples used for the analyses were representative. This meant different sample sizes and time periods were used to answer the research questions and achieve the research objectives. Similarly, this was more pronounced in the analyses involving firm performance as only a single time period was used. A better coverage over a period of years would have allowed for the analyses involving firm performance to be carried out with some panel estimation techniques. Second, the direction the research in the field of international business and FDI literature have taken of recent meant that some parts of this study did not fully attach to the current wave. That is, most recent studies in the FDI literature have employed firm level data to explain FDI determinants however due to data availability this study has used only country level data to explain FDI activities.

Third, the research was not able to investigate determinants of sectoral FDI into SSA or use data on sectoral FDI to explain economic growth in SSA. Such sectoral analyses would have added enormous richness to this study as such findings would allow better judgements

from policy makers and investors. Fourth, some important variables were not employed during this study. For example, data on labour costs, kilometre of paved roads, kilometre of rail lines, literacy rates, research and development, innovation, market concentration, market growth, and age of firm were not obtainable. Fifth, FDI studies are affected by measurement issues and thus, the run the risks of omitted variables bias (with the consequent risk of endogeneity). Sixth, still on data availability, most data on the explanatory variables are not available for many countries after 2010. Although, some of these explanatory variables are collected in the World Bank Development Indicator database there are quite significant delays in obtaining data from developing countries. Seventh, the study used profit per worker as a measure of firm financial performance however there are other measures of firm financial performance such as price cost margin, return on asset, return on sales, total sales, net operating profit, etc. Therefore, caution should be applied when interpreting the results since the different types of measures used to gauge performance shows a single measure might not be overly representative.

## **9.6 FURTHER RESEARCH**

Based on the limitations of this study, a number of possible avenues for future research have been identified. First, future research foreign investments in SSA should be investigated using firm level data. This will help compliment what is already known of the determinants of country level FDI in SSA. Second, considering that the analyses for firm performance used a single time period, it will be important for other studies to replicate this based on a panel data. Such studies would help control for country, industry, year, and dynamic effects. Third, this study used profit per worker to capture firm performance, thus future research can explore other measures of firm performance. Fourth, the study on firm performance was based just on manufacturing industries. It would therefore be interesting to

investigate firm performance in other industries. Fifth, with regards to some of the important variables of the determinants of FDI, firm performance and economic growth that this study did not use, future research can employ such variables. Sixth, investigating the determinants of sectoral FDI or the impact of sectoral FDI on economic growth is another interesting avenue for further research.

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